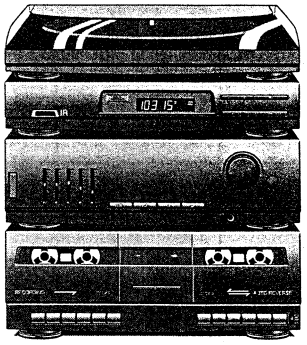
4639

Midi System AS501/22

Service
Service
Service



Service Manual

For repair information of the cassette mechanism see service manual of Tape Transport RN/RR General documentation and Tape Transport RN-4 or RN-6.

+ 4496

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"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

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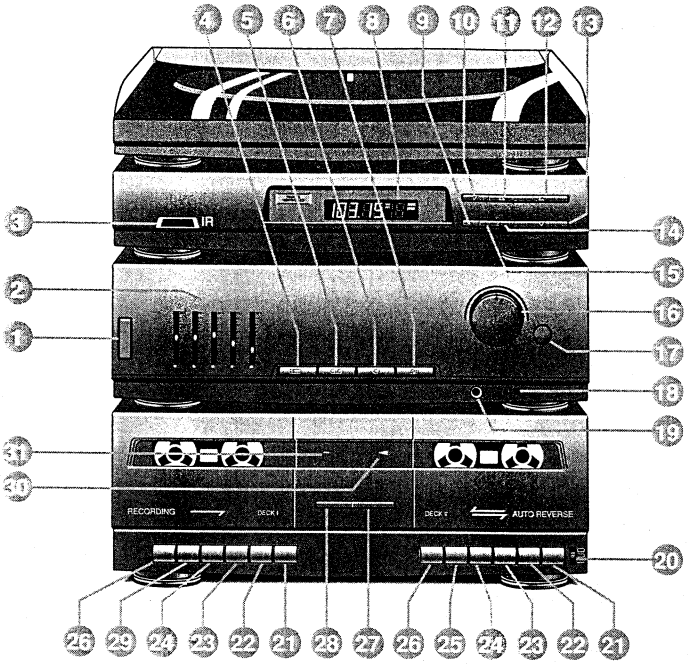
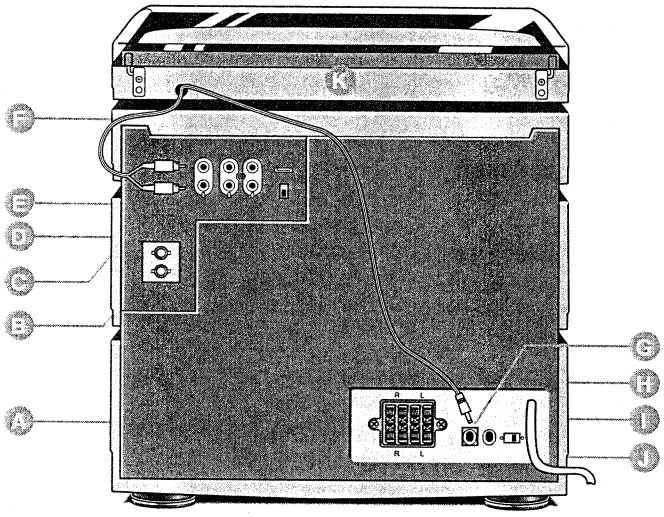
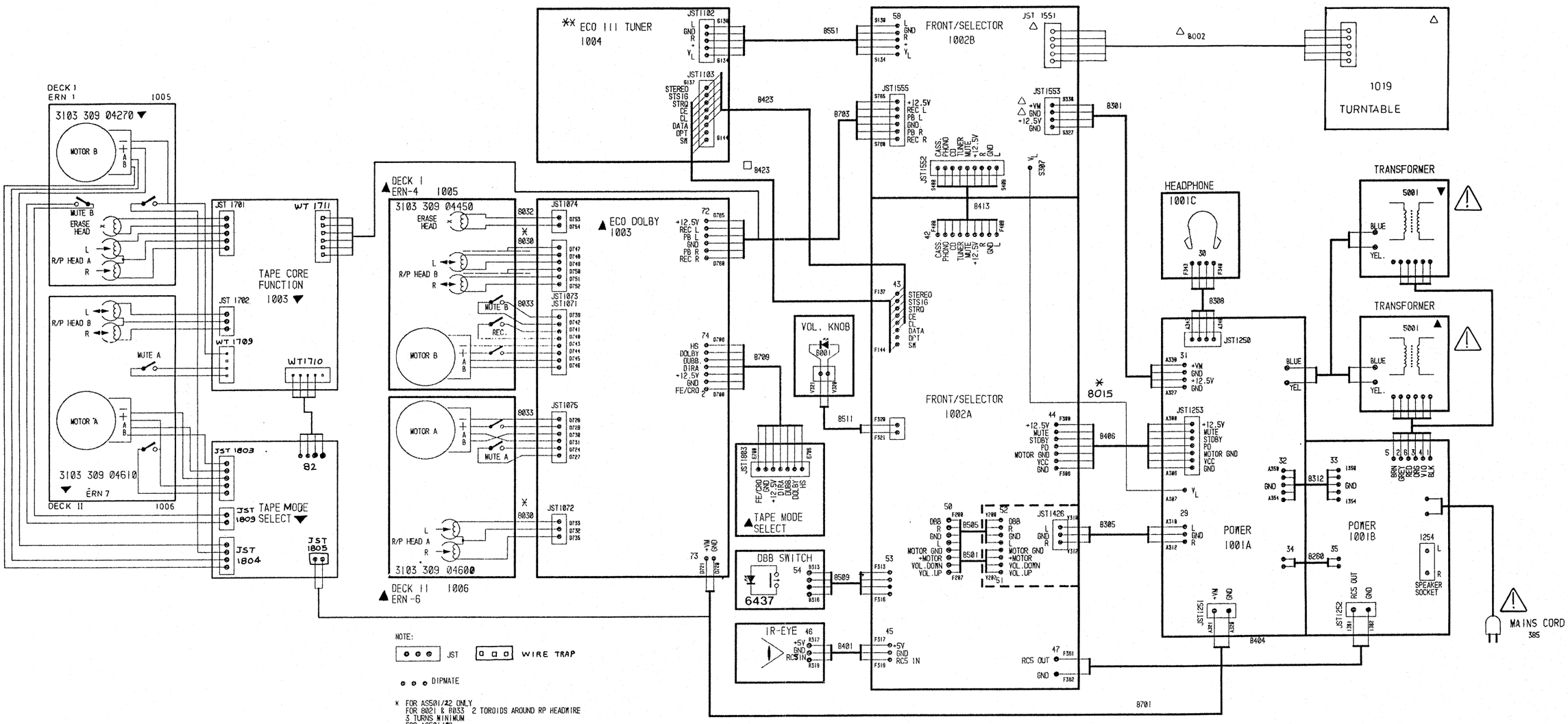




CONNECTION AND CONTROL

1	Power Switch	1259
2	Graphics Equalizer	3505,3507 3509,3511
3	Infa Red Sensor	6420
4	Tuner	1404
5	Tape	1402
6	Phone/TV	1401
7	CD	1403
8	Display	1400
9	Band selector	1406
10	Preset Down	1412
11	Preset Up	1411
12	Tuning Up	1410
13	Tuning Down	1407
14	Mono/Stereo	1408
15	Program Memo	1409
16	Volume Control	3500
17	Balance	3545
18	DBB Switch	1405
19	Headphone	1256
20	Not Applicable	
21	Pause	
22	F.Forward	
23	F.Rewind	
24	Play	
25	Not Applicable	
26	Stop-Eject	
27	Fe/Cr	1801
28	Dolby NR	1802
29	Record I	
30	Not Applicable	
31	Dolby NR Indicator	6802
A	Speaker	1254
B	FM Aerial Socket	1100
C	Not applicable	
D	CD Input	1554
E	Aux/Tv input	1554
F	Phono input	1554
G	Phono Supply Output	1261
H	Remote Out Socket	1255
I	Not applicable	
J	AC Mains Cord	

Set wiring diagram



NOTE:

JST WIRE TRAP

DIPMATE

* FOR AS501/22 ONLY
FOR 8021 & 8033 2 TOROIDS AROUND RP HEADWIRE
3 TURNS MINIMUM
FOR AS501/22

** CHANGE TO HERA TUNER FOR -/22

□ FOR AS501/01,-/21,-/37 AND AS505/21 ONLY

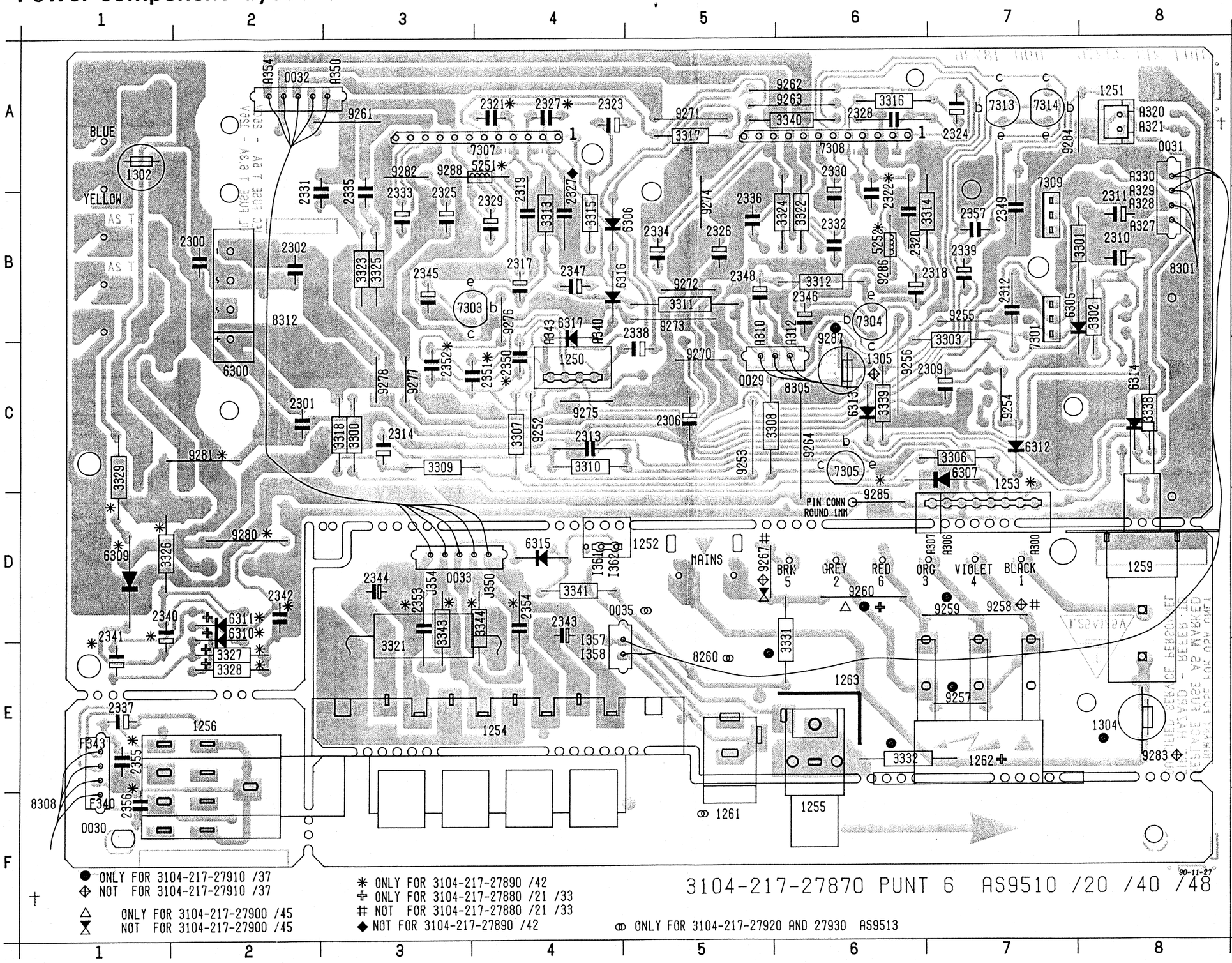
▲ NOT FOR AS501/01, -/10,-/21,-/30 AND AS505/21

▼ FOR AS501/01, -/10 , -/21,-/30 AND AS505/21

△ FOR AS505 FAMILY

CS 34 776A

Power component layout


1 2 3 4 5 6 7 8
A B C D E F
BLUE
YELLOW
1302
6300
8312
2300
2301
2302
3323
3325
2331
2335
9282
9288
2333
2325
2329
2319
3313
2327
3315
6306
2334
2326
9274
2317
2347
6316
2345
7303
9276
9272
3311
9273
6317
A343
A340
1250
2338
2352
2351
2350
9278
9277
9270
2306
3307
9252
9275
2313
3310
3309
2314
3318
3300
9281
3329
9280
6309
3326
6315
1252
I361
I362
MAINS
BRN 5
GREY 2
RED 6
ORG 3
VIOLET 4
BLACK 1
A307
A306
A300
9267
9260
9259
9258
1259
3341
0035
I357
I358
8260
3331
1263
9257
1304
9283
3332
1262
1255
1261
1254
2344
2353
J354
0033
J350
2354
3321
3343
3344
2343
2342
2340
2341
6311
6310
3327
3328
2337
1256
F343
F340
2355
2356
8308
0030
9262
9263
3340
3316
9271
3317
7307
5251
7308
2328
2324
7313
7314
1251
A320
A321
0031
9284
2330
2322
2336
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3322
2332
5252
9286
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2357
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2349
7309
A330
A329
A328
A327
2311
2310
3301
8301
2348
3312
2346
2318
2312
6305
3302
7301
9255
3303
A310
A312
9287
7304
1305
9256
2309
6313
3339
8305
0029
6314
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9254
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9264
7305
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6307
1253
9285
PIN CONN ROUND 1MM
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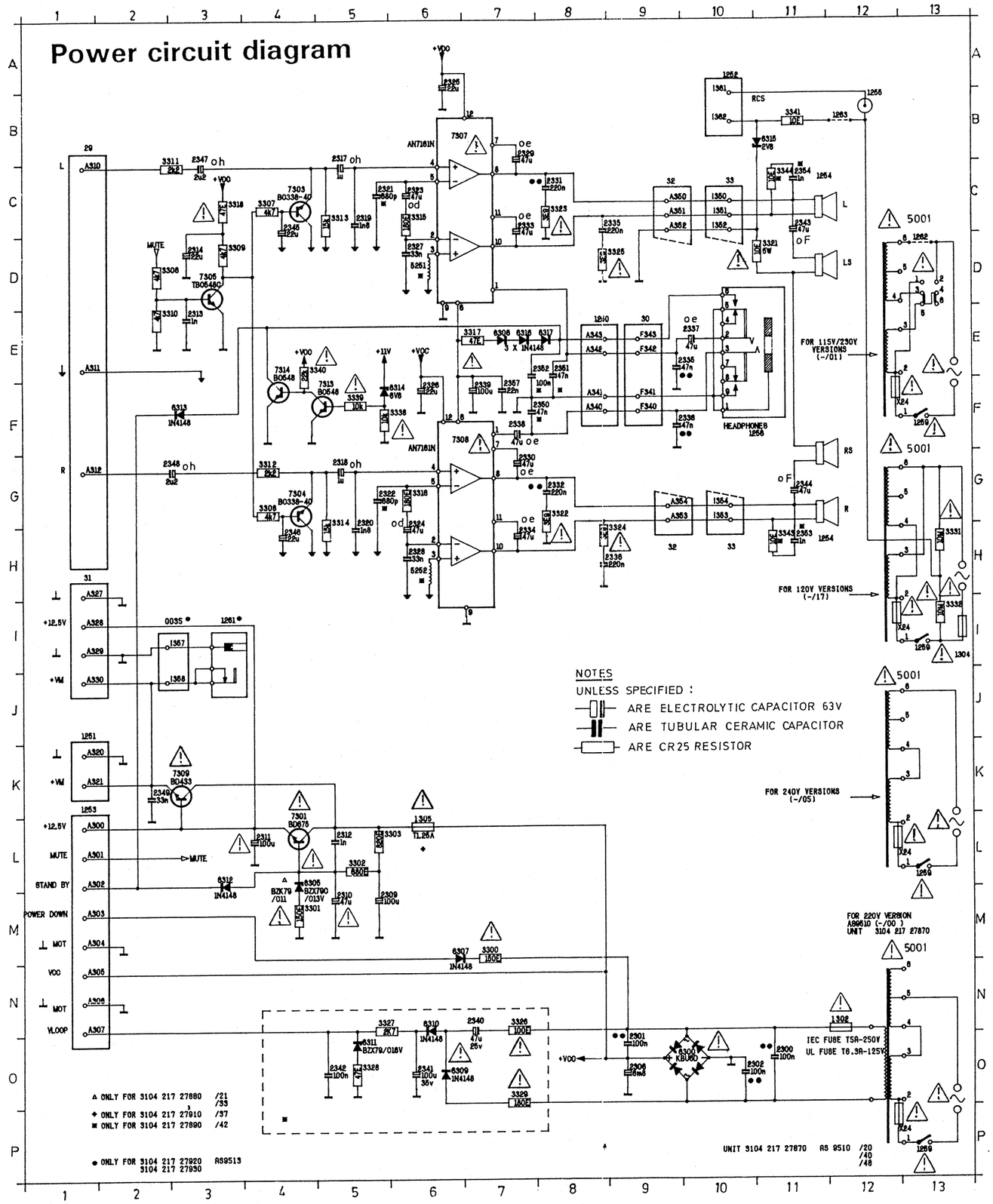
3398
3400

0030	E9	2352	E7
0031	M1	2353	H11
0032	C9	2354	C11
0032	M9	2357	F7
0033	C10	3300	M7
0033	H10	3301	M46
1250	E8	3302	L5
1251	J1	3303	L5
1252	A10	3306	D2
1253	K1	3307	C4
1254	M11	3308	G4
1254	C11	3309	D3
1255	B12	3310	E2
1256	F11	3311	B3
1261	I3	3312	G4
1262	D13	3313	C5
1263	B12	3314	G5
1302	M12	3315	C6
1304	I13	3316	G6
1305	L6	3317	E7
2300	O11	3318	C3
2301	O9	3321	D11
2302	O10	3322	G8
2306	O9	3323	C8
2309	M5	3324	M8
2310	M5	3325	D8
2311	L4	3326	M7
2312	L5	3327	M5
2313	E3	3328	O5
2314	D3	3329	O7
2317	B5	3331	H13
2318	G5	3332	I13
2319	C5	3338	F5
2320	G5	3339	F5
2321	C5	3340	E4
2322	G5	3341	B11
2323	C6	3343	H11
2324	G6	3344	C11
2325	A6	5001	J12
2326	F6	5001	G12
2327	D6	5001	D12
2328	H6	5001	M12
2329	B7	5251	D6
2330	G7	5252	H6
2331	C8	6300	O10
2332	G8	6305	L4
2333	C7	6306	E7
2334	H7	6307	M6
2335	E9	6309	O6
2335	C8	6310	M6
2336	H8	6311	O5
2336	F9	6312	L3
2337	E10	6313	F3
2338	F7	6314	F5
2339	F7	6315	B11
2340	M7	6316	E7
2341	O6	6317	E8
2342	O5	7301	K4
2343	C11	7303	C4
2344	G11	7304	G4
2345	C4	7305	D3
2346	H4	7307	B6
2347	B3	7308	F6
2348	G3	7309	K3
2349	K2	7313	F5
2350	F7	7314	E4
2351	E8		

Power circuit diagram



FOR POWER BOARD

+Vcc : 22.4V

7307/7308

1 : 4.0V
2 : 1.2V
3 : 0V
4 : 0.1V
5 : 1.2V
6 : 22.4V
7 : 21.5V
8 : 12.2V
9 : 0V
10 : 12.2V
11 : 22.0V
12 : 22.4V

7301	7303/7304	7309
e : 13.1V	e : 0V	e : 12.7V
b : 14.6V	b : 0V	b : 13.1V
c : 22.4V	c : 0V	c : 22.4V

7313	7314
e : 0V	e : 21.4V
b : 0.7V	b : 0V
c : 0V	c : 0V

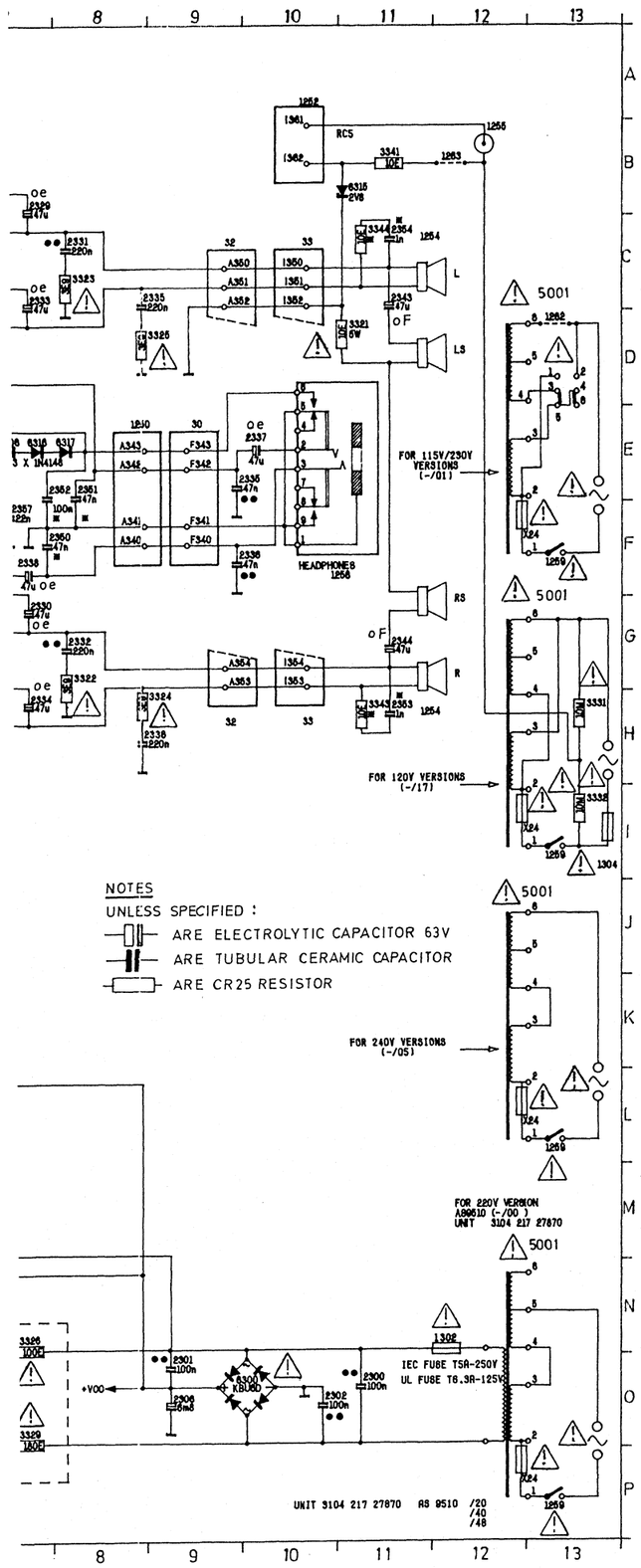
....V measured in power on position

FOR TAPE SELECT BOARD

7801

e : 12.5V
b : 12.5Vfw
11.7Vrew
c : 0Vfw
12.5Vrw

....V measured in power on position
....Vfw measured in tape forward positon
....Vrew measured in tape rewind position



FOR POWER BOARD

+Vcc : 22.4V

7307/7308

1 : 4.0V
2 : 1.2V
3 : 0V
4 : 0.1V
5 : 1.2V
6 : 22.4V
7 : 21.5V
8 : 12.2V
9 : 0V
10 : 12.2V
11 : 22.0V
12 : 22.4V

7301	7303/7304	7309
e : 13.1V	e : 0V	e : 12.7V
b : 14.6V	b : 0V	b : 13.1V
c : 22.4V	c : 0V	c : 22.4V

7313	7314
e : 0V	e : 21.4V
b : 0.7V	b : 0V
c : 0V	c : 0V

....V measured in power on position

FOR TAPE SELECT BOARD

7801

e : 12.5V
b : 12.5Vfw
    11.7Vrew
c : 0Vfw
    12.5Vrw

....V measured in power on position
....Vfw measured in tape forward positon
....Vrew measured in tape rewind position

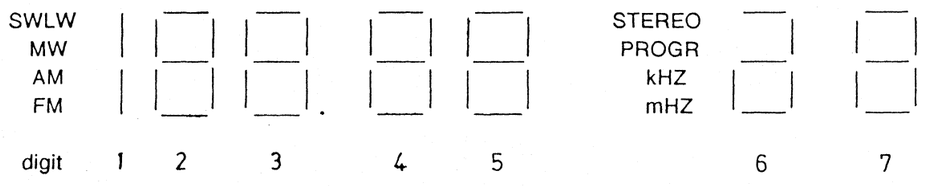
SELF- TEST PROCEDURE

When holding the program-key and preset-up down during power up the ERROM is loaded after which the display lights completely until both keys are released.

The loaded information are as follows:

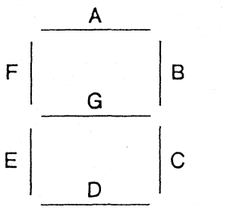
Preset	Frequency			Band
		POL	USA	
0	87.50	65.00	87.5	
1	97.00	65.00	106.5	
2	98.00	65.00	87.5	FM
3	99.00	65.00	87.5	
4	108.00	65.00	87.5	
			USA	
5	522		530	
6	567		580	
7	603		620	MW
8	1278		1370	
9	1494		1610	
10	1611			
11	148			
12	155			
13	200			LW
14	275			
15	284			
		EUR		
16	3820	5820		
17	3900	5900		SW
18	11900	13900		
19	12100	14100		

LCD Display



LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4



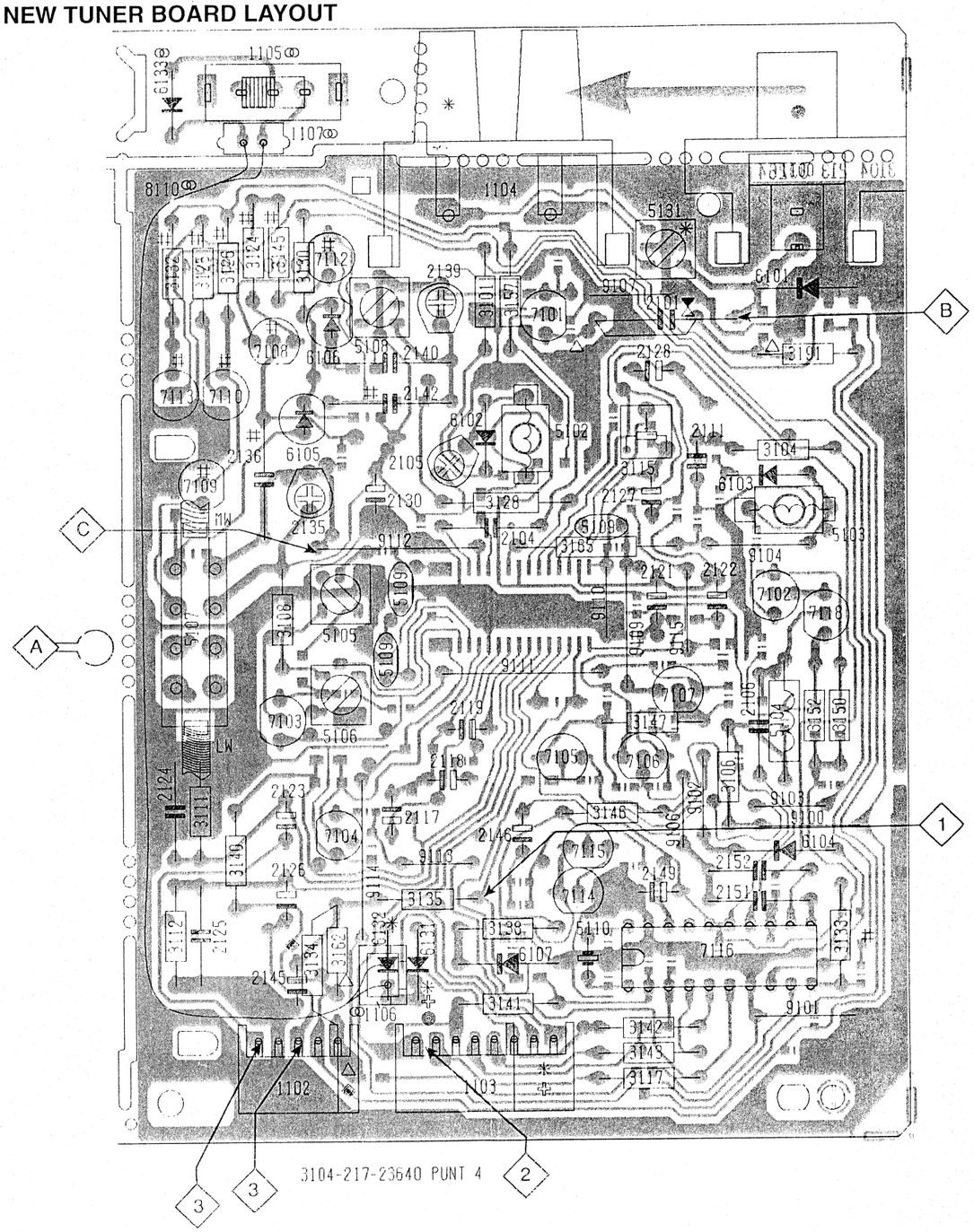
NEW ALIGNMENT TABLE

SK. . .	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5–108MHz			108MHz 87.5MHz	5103 check		8V 2.9V ± 0.3V
LW 148–284kHz			284kHz	5108		8.5V
MW 522–1611kHz (530–1700kHz)			1611kHz (1700kHz)	2139	1	7.8V # 8.5V + (8.0V)
			522kHz (530kHz)	5108		1.2V # (1.0V)
FM–RF						
FM	87.5MHz mod = 1kHz Δf = 22.5kHz	B	87.5MHz	5102	3	max.
	108MHz mod = 1kHz Δf = 22.5kHz		108MHz	2105		
Stereo decoder						
FM	98MHz carrier 1mV	B	98MHz	3115	2	76 ± 0.2kHz
AM–IF						
MW	450kHz $ Δf = 10kHz 50Hz	C	522kHz (530kHz)	5106 5105	3	Symmetrical max fo
AM–RF						
LW *	200kHz	A	200kHz	5107	3	max.
MW *	558kHz (560kHz)		558kHz (560kHz)	5107		
	1494kHz (1600kHz)		1494kHz (1600kHz)	2135		

repeat

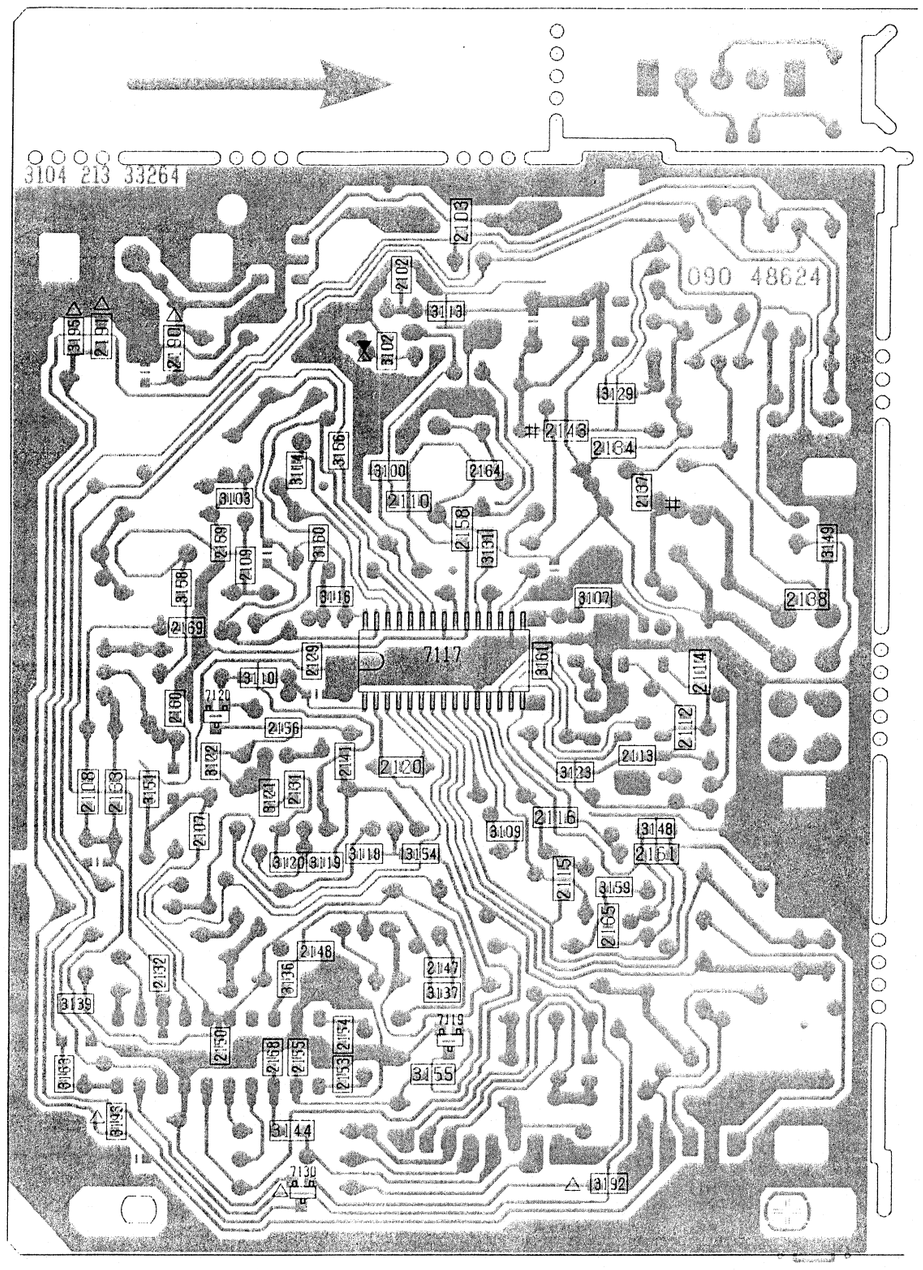
* Mod 1kHz 30% AM
$ via 100nF
(. .) Grid 10kHz for –/01/21 only
\+ For LW verion only
\# Not for LW version

NEW TUNER BOARD LAYOUT



△: ONLY FOR AUTOSTORE SETS (AS9600)
⧗: NOT FOR AUTOSTORE SETS
✳: ONLY FOR /17 UNITS
◎: NOT FOR /17
#: NOT FOR /01 /10 AND /17 UNITS
✣: ONLY FOR /10 UNITS
⛐: FOR EXTERNAL LOOPSUPPLY (AS9400) & (AS405)
(AS9500) & (AS501)

(3): ONLY FOR /01 UNITS



3104-217-23640 PUNT 4

△: ONLY FOR AUTOSTORE SETS (AS9600)
⧗: NOT FOR AUTOSTORE SETS
✳: ONLY FOR /17 UNITS
#: NOT FOR /10 AND /17 UNITS
✣: ONLY FOR /10 UNITS

+Vc - 7.4V FM
8.1V AM
Vref - 1.2V

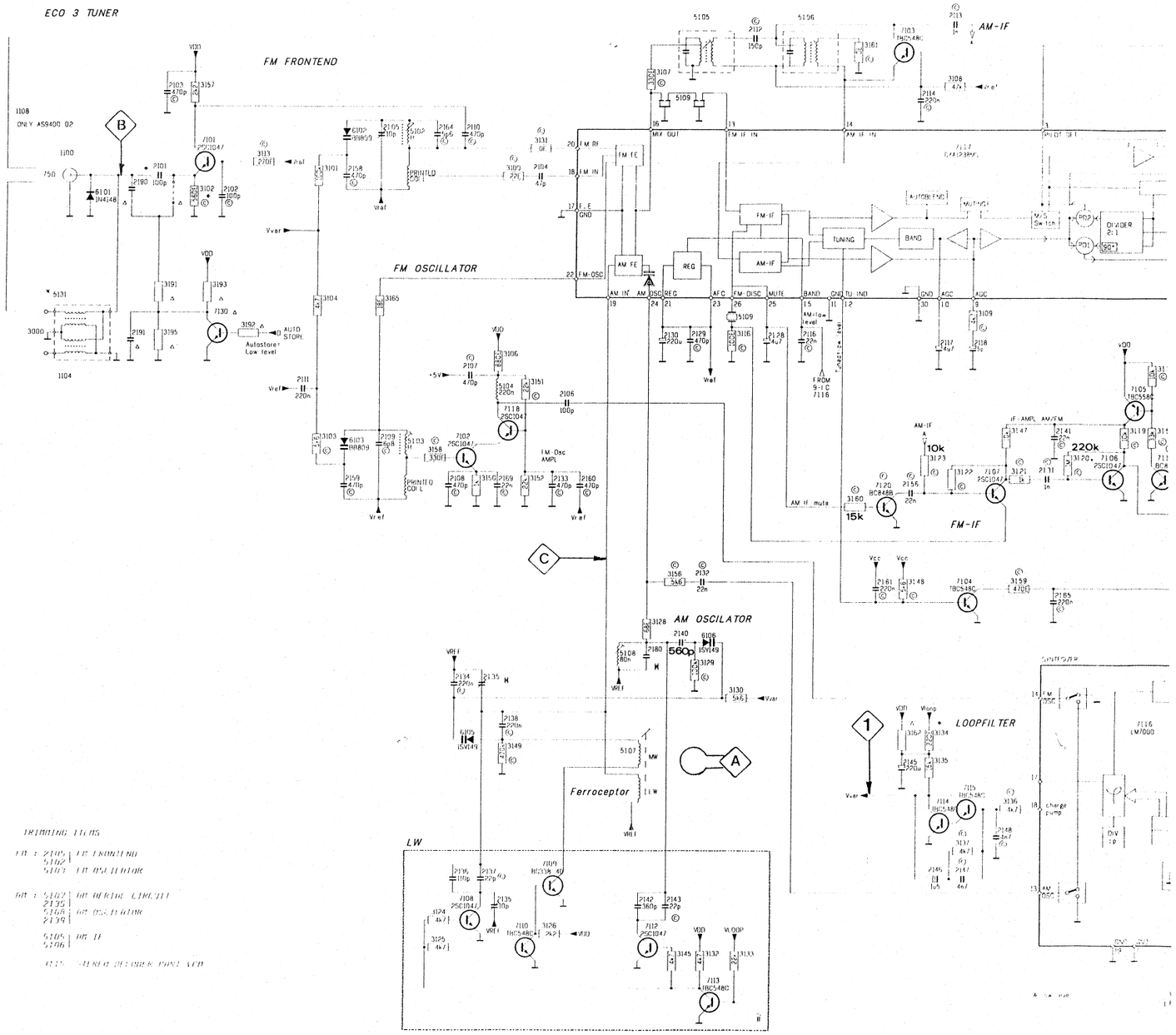
7116

	FM	AM
1	1.7V	1.7V
2	-	-
3	-	-
4	-	-
5	-	-
6	0.2V	4.9V
7	0V	0V
8	3.8V	0.2V
9	1.3V	0V
10	0.7V	0.7V
11	0.1V	0.1V
12	0.1V	0.1V
13	0.1V	1.8V
14	2.8V	0.1V
15	5.6V	5.7V
16	5.6V	5.7V
17	-	-
18	1.0V	1.0V
19	0V	0V
20	0.9V	0.9V

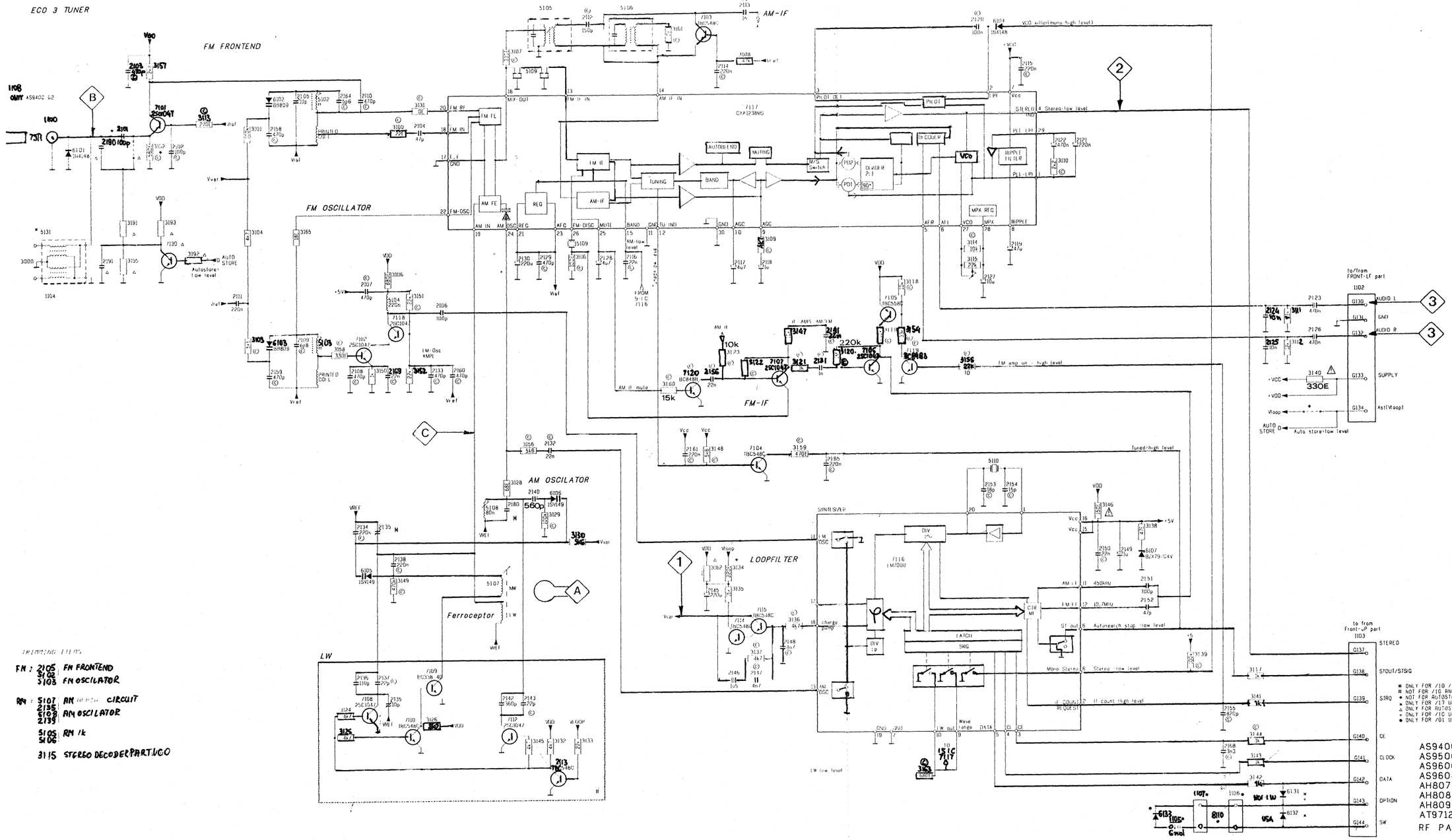
7117

	FM	AM
1	0V	1.0V
2	1.4V	1.5V
3	0.2V	1.0V
4	3.2V	3.2V
5	2.4V	2.4V
6	2.4V	2.4V
7	7.4V	8.1V
8	3.8V	3.8V
9	1.4V	1.3V
10	1.0V	1.2V
11	0V	0V
12	0.1V	0.2V
13	1.3V	0V
14	0V	0V
15	1.3V	0V
16	0.2V	0V
17	0V	0V
18	0.3V	0V
19	1.2V	1.2V
20	1.2V	1.2V
21	1.2V	1.2V
22	1.2V	1.2V
23	1.2V	1.2V
24	1.2V	1.2V
25	0.2V	0V
26	3.2V	3.8V
27	1.4V	1.4V
28	1.6V	1.6V
29	1.0V	1.0V
30	0V	0V

NEW TUNER BOARD CIRCUIT



NEW TUNER BOARD CIRCUIT



TRIMMING COILS

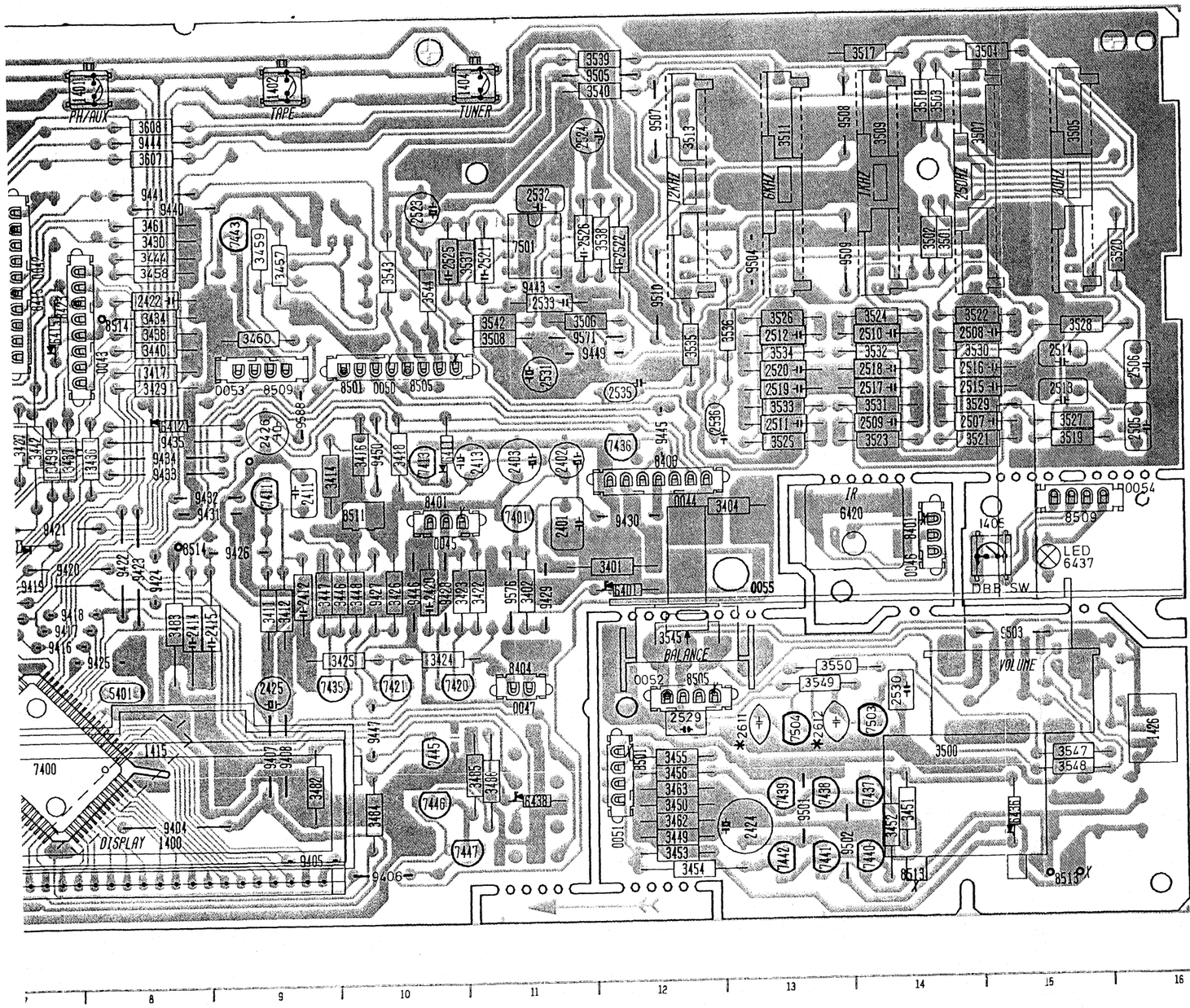
FM : 2105 FM FRONTEND
5102 FM OSCILATOR
5103

RM : 5107 AM OSCILATOR CIRCUIT
2135
6109
2139
5105 RM ik
5106

3115 STEREO DECODER PART/VCO

Front component layout

| | | |


PH/AUX
TAPE
TUNER
DISPLAY
BALANCE
VOLUME
IR
LED
6437
DBB SW
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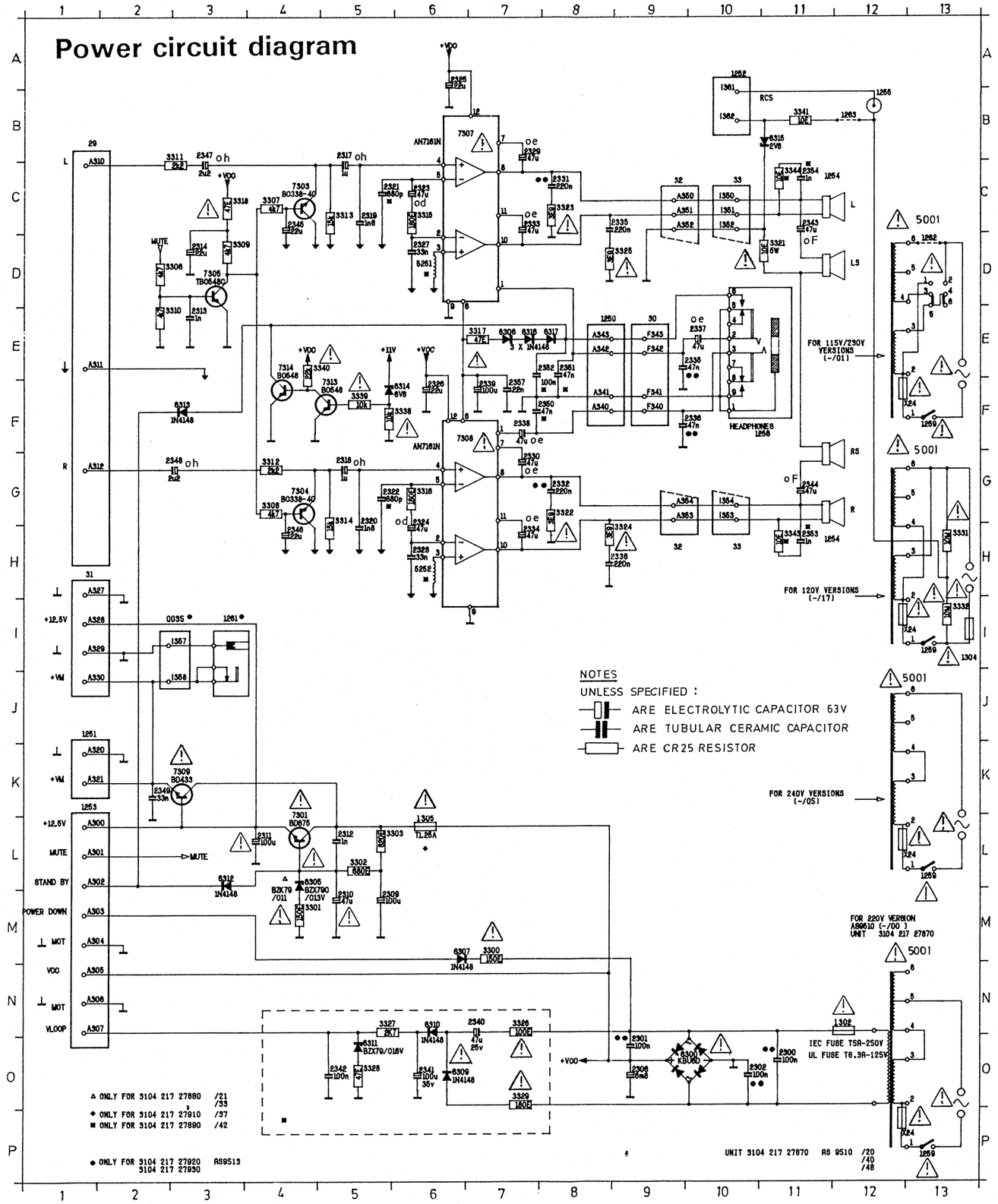
0030	E9	2352	E7
0031	M1	2353	H11
0032	C9	2354	C11
0032	M9	2357	F7
0033	C10	3300	M7
0033	H10	3301	M46
1250	E8	3302	L5
1251	J1	3303	L5
1252	A10	3306	D2
1253	K1	3307	C4
1254	M11	3308	G4
1254	C11	3309	D3
1255	B12	3310	E2
1256	F11	3311	B3
1261	I3	3312	G4
1262	D13	3313	C5
1263	B12	3314	G5
1302	M12	3315	C6
1304	I13	3316	G6
1305	L6	3317	E7
2300	O11	3318	C3
2301	O9	3321	D11
2302	O10	3322	G8
2306	O9	3323	C8
2309	M5	3324	M8
2310	M5	3325	D8
2311	L4	3326	M7
2312	L5	3327	M5
2313	E3	3328	O5
2314	D3	3329	O7
2317	B5	3331	H13
2318	G5	3332	I13
2319	C5	3338	F5
2320	G5	3339	F5
2321	C5	3340	E4
2322	G5	3341	B11
2323	C6	3343	H11
2324	G6	3344	C11
2325	A6	5001	J12
2326	F6	5001	G12
2327	D6	5001	D12
2328	H6	5001	M12
2329	B7	5251	D6
2330	G7	5252	H6
2331	C8	6300	O10
2332	G8	6305	L4
2333	C7	6306	E7
2334	H7	6307	M6
2335	E9	6309	O6
2335	C8	6310	M6
2336	H8	6311	O5
2336	F9	6312	L3
2337	E10	6313	F3
2338	F7	6314	F5
2339	F7	6315	B11
2340	M7	6316	E7
2341	O6	6317	E8
2342	O5	7301	K4
2343	C11	7303	C4
2344	G11	7304	G4
2345	C4	7305	D3
2346	H4	7307	B6
2347	B3	7308	F6
2348	G3	7309	K3
2349	K2	7313	F5
2350	F7	7314	E4
2351	E8		



FOR POWER BOARD

+Vcc : 22.4V

7307/7308

1 : 4.0V
2 : 1.2V
3 : 0V
4 : 0.1V
5 : 1.2V
6 : 22.4V
7 : 21.5V
8 : 12.2V
9 : 0V
10 : 12.2V
11 : 22.0V
12 : 22.4V

7301	7303/7304	7309
e : 13.1V	e : 0V	e : 12.7V
b : 14.6V	b : 0V	b : 13.1V
c : 22.4V	c : 0V	c : 22.4V

7313	7314
e : 0V	e : 21.4V
b : 0.7V	b : 0V
c : 0V	c : 0V

....V measured in power on position

FOR TAPE SELECT BOARD

7801

e : 12.5V
b : 12.5Vfw
11.7Vrew
c : 0Vfw
12.5Vrw

....V measured in power on position
....Vfw measured in tape forward positon
....Vrew measured in tape rewind position

SELF

Wher
down
after
until

The

Pres
0
1
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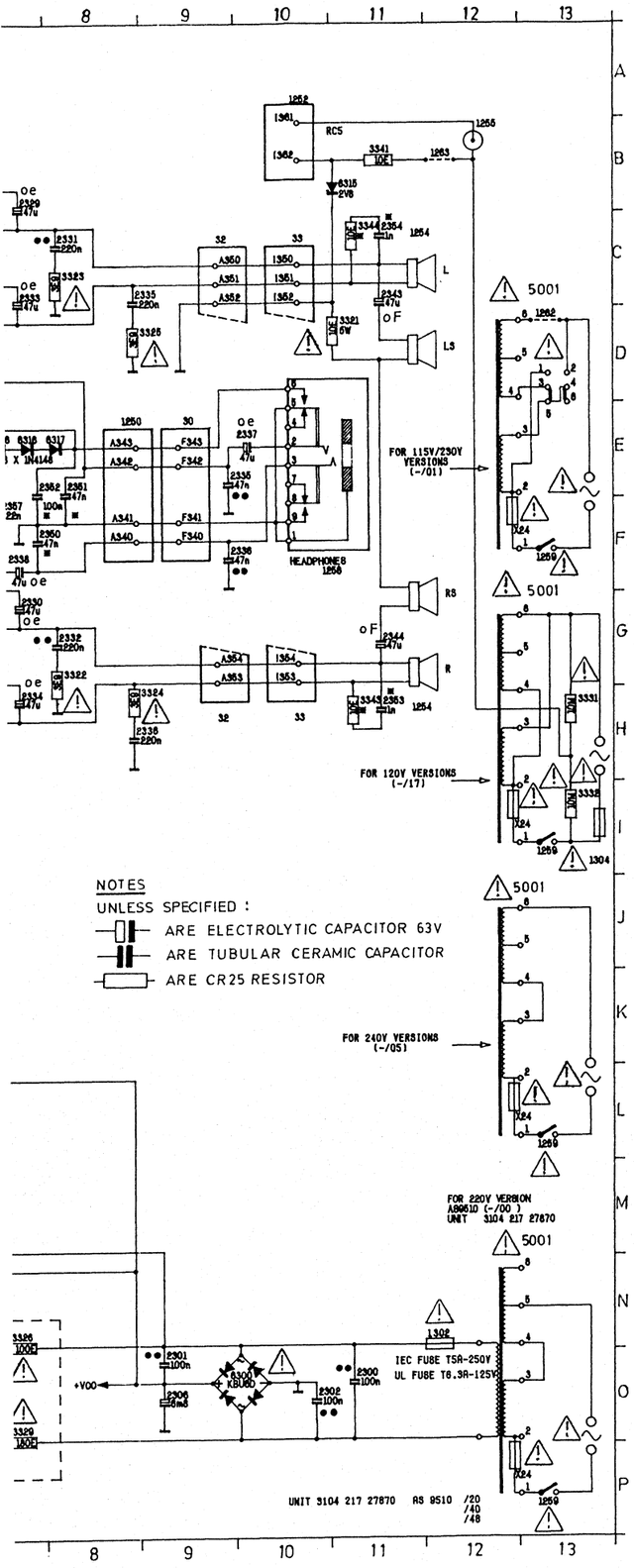
LCD

SWLV
MW
AM
FM

digit



FOR POWER BOARD

+Vcc : 22.4V

7307/7308

1 : 4.0V
2 : 1.2V
3 : 0V
4 : 0.1V
5 : 1.2V
6 : 22.4V
7 : 21.5V
8 : 12.2V
9 : 0V
10 : 12.2V
11 : 22.0V
12 : 22.4V

7301	7303/7304	7309
e : 13.1V	e : 0V	e : 12.7V
b : 14.6V	b : 0V	b : 13.1V
c : 22.4V	c : 0V	c : 22.4V

7313	7314
e : 0V	e : 21.4V
b : 0.7V	b : 0V
c : 0V	c : 0V

....V measured in power on position

FOR TAPE SELECT BOARD

7801

e : 12.5V
b : 12.5Vfw
11.7Vrew
c : 0Vfw
12.5Vrw

....V measured in power on position
....Vfw measured in tape forward positon
....Vrew measured in tape rewind position

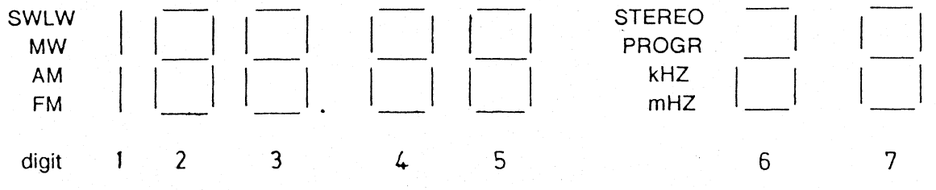
SELF- TEST PROCEDURE

When holding the program-key and preset-up down during power up the ERROM is loaded after which the display lights completely until both keys are released.

The loaded information are as follows:

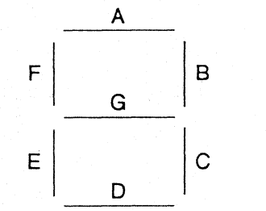
Preset	Frequency			Band
		POL	USA	
0	87.50	65.00	87.5	
1	97.00	65.00	106.5	
2	98.00	65.00	87.5	FM
3	99.00	65.00	87.5	
4	108.00	65.00	87.5	
			USA	
5	522		530	
6	567		580	
7	603		620	MW
8	1278		1370	
9	1494		1610	
10	1611			
11	148			
12	155			
13	200			LW
14	275			
15	284			
		EUR		
16	3820	5820		
17	3900	5900		SW
18	11900	13900		
19	12100	14100		

LCD Display

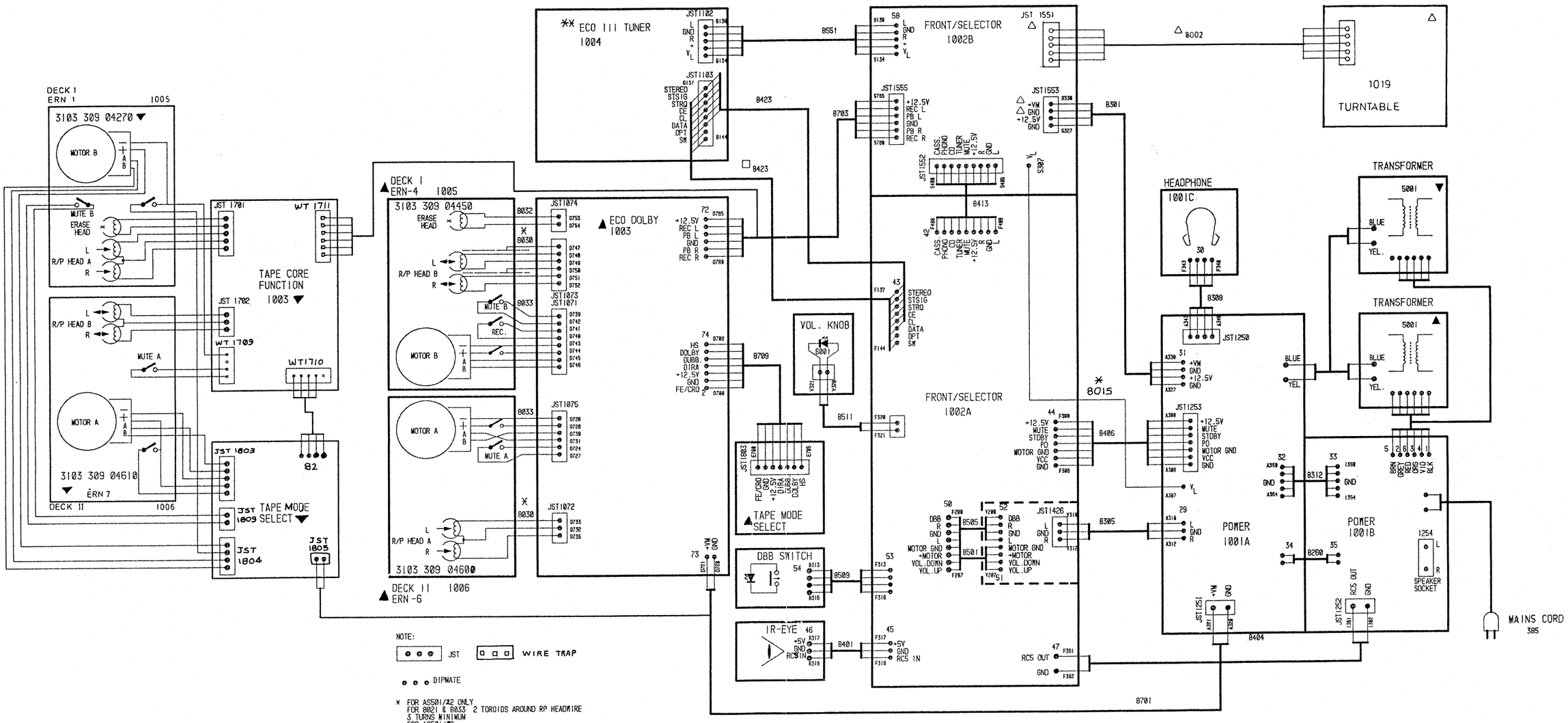


LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4



Set wiring diagram



NOTE:

JST WIRE TRAP

DIPMATE

* FOR AS501/22 ONLY
FOR 8021 & 8033 2 TOROIDS AROUND RP HEADWIRE
3 TURNS MINIMUM
FOR AS501/22

** CHANGE TO HERA TUNER FOR -/22

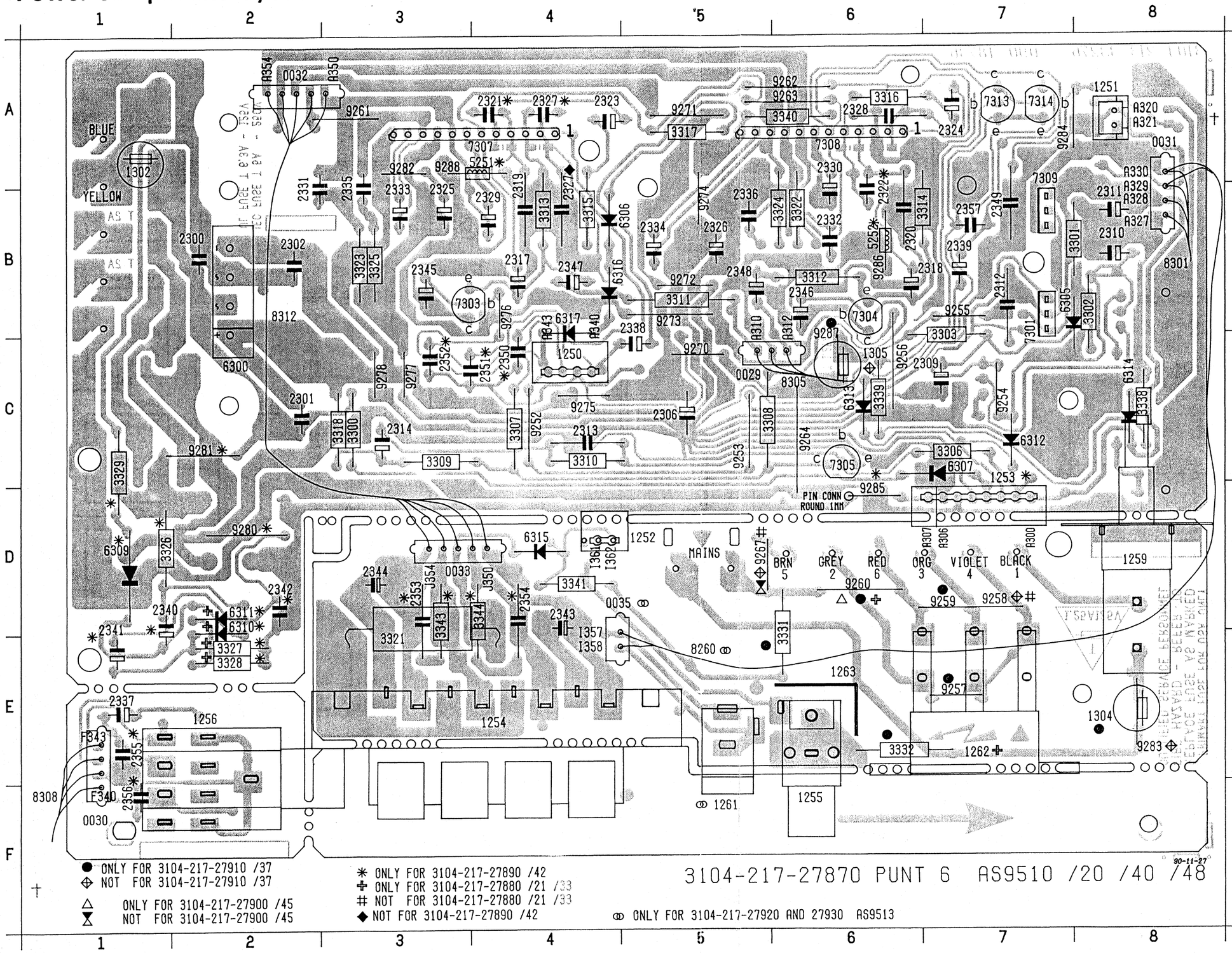
□ FOR AS501/01,-/21,-/37 AND AS505/21 ONLY

▲ NOT FOR AS501/01, -/10,-/21,-/30 AND AS505/21

▼ FOR AS501/01, -/10 , -/21,-/30 AND AS505/21

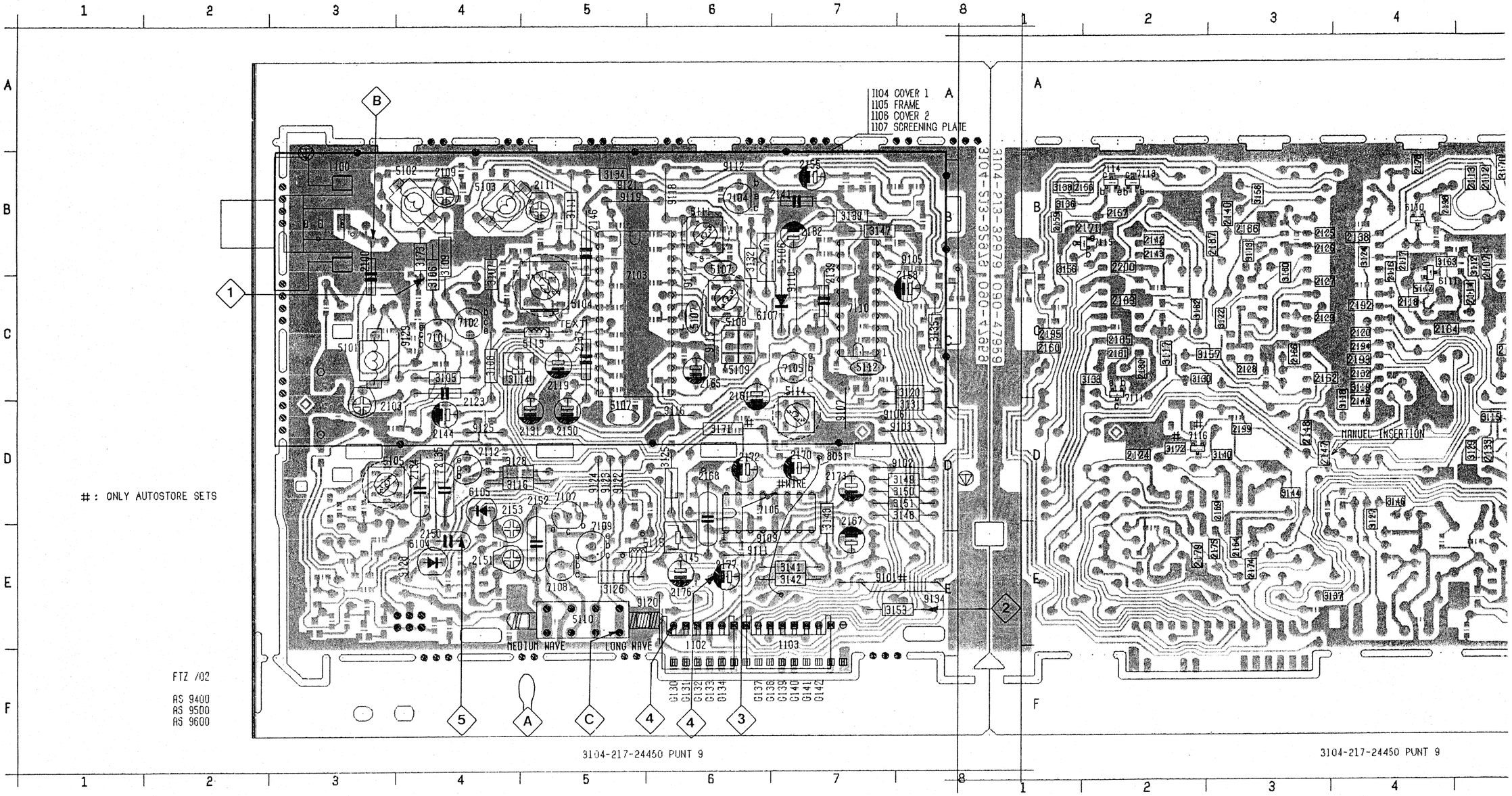
△ FOR AS505 FAMILY

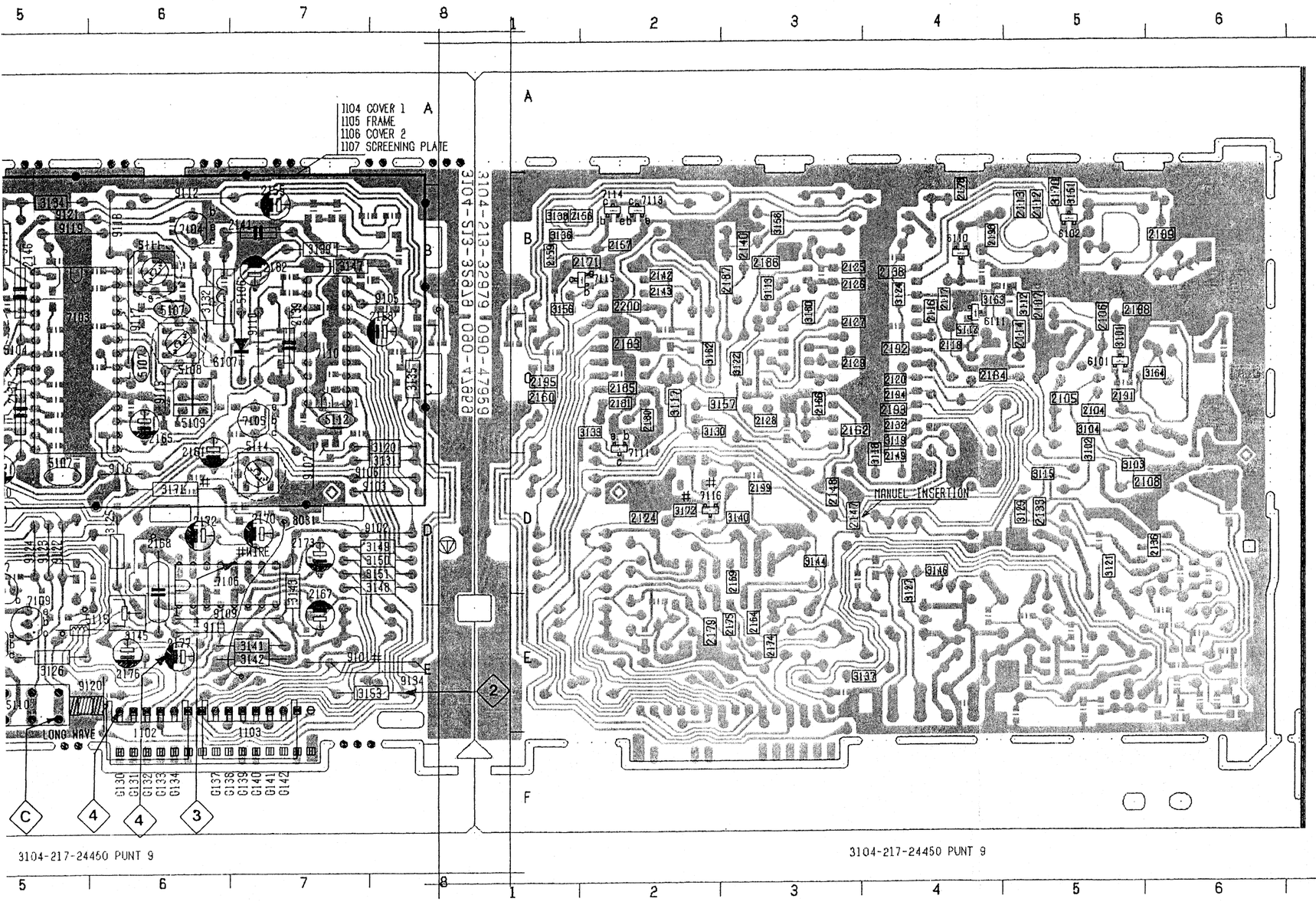
Power component layout



0029	C 5	2350	C 4	7313	A 7
0030	F 1	2351	C 4	7314	A 7
0031	A 8	2352	C 3	9252	C 4
0032	A 2	2353	D 3	9253	C 5
0033	D 3	2354	D 4	9254	C 7
0035	D 4	2355	E 1	9255	B 7
1250	C 4	2356	F 1	9256	C 6
1251	A 8	2357	B 7	9257	E 7
1252	D 5	3300	C 3	9258	D 7
1253	C 7	3301	B 8	9259	D 7
1254	E 4	3302	B 8	9260	D 6
1255	F 6	3303	C 7	9261	A 3
1256	E 2	3306	C 7	9262	A 6
1259	D 8	3307	C 4	9263	A 6
1261	F 5	3308	C 6	9264	C 6
1262	E 7	3309	C 3	9267	D 5
1263	E 6	3310	C 4	9270	C 5
1302	A 1	3311	B 5	9271	A 5
1304	E 8	3312	B 6	9272	B 5
1305	C 6	3313	B 4	9273	B 5
2300	B 2	3314	B 7	9274	B 5
2301	C 2	3315	B 4	9275	C 4
2302	B 2	3316	A 6	9276	B 4
2306	C 5	3317	A 5	9277	C 3
2309	C 7	3318	C 3	9278	C 3
2310	B 8	3321	E 3	9280	D 2
2311	B 8	3322	B 6	9281	C 2
2312	B 7	3323	B 3	9282	A 3
2313	C 4	3324	B 6	9283	E 8
2314	C 3	3325	B 3	9284	A 7
2317	B 4	3326	D 1	9285	D 6
2318	B 7	3327	E 2	9286	B 6
2319	A 4	3328	E 2	9287	C 6
2320	B 6	3329	C 1	9288	A 3
2321	A 4	3331	D 6		
2322	B 6	3332	E 6		
2323	A 4	3338	C 8		
2324	A 7	3339	C 6		
2325	B 3	3340	A 6		
2326	B 5	3341	D 4		
2327	A 4	3343	D 3		
2327	B 4	3344	D 4		
2328	A 6	5251	A 4		
2329	B 4	5252	B 6		
2330	A 6	6300	C 2		
2331	A 2	6305	B 7		
2332	B 6	6306	B 5		
2333	B 3	6307	C 7		
2334	B 5	6309	D 1		
2335	A 3	6310	D 2		
2336	B 5	6311	D 2		
2337	E 1	6312	C 7		
2338	B 5	6313	C 6		
2339	B 7	6314	C 8		
2340	D 1	6315	D 4		
2341	D 1	6316	B 4		
2342	D 2	6317	B 4		
2343	D 4	7301	B 7		
2344	D 3	7303	B 3		
2345	B 3	7304	B 6		
2346	B 6	7305	C 6		
2347	B 4	7307	A 4		
2348	B 5	7308	A 6		
2349	B 7	7309	A 7		

1100	B 3	3171	D 6
1102	E 6	3173	B 4
1103	E 6	5101	C 3
1104	A 7	5102	B 4
1105	A 7	5103	B 4
1106	A 7	5104	C 5
1107	A 7	5105	D 3
2100	B 3	5106	B 7
2103	D 3	5107	D 5
2109	B 4	5107	B 6
2111	B 5	5107	C 6
2119	C 5	5108	C 6
2123	D 4	5109	C 6
2130	D 5	5110	E 5
2131	D 5	5111	B 6
2134	D 4	5112	C 7
2135	D 4	5113	C 5
2137	C 5	5114	C 7
2139	B 7	5115	E 6
2141	B 7	6104	E 4
2144	D 4	6105	D 4
2146	B 5	6107	C 6
2150	E 4	7101	C 4
2151	E 4	7102	C 4
2152	D 5	7103	C 5
2153	D 4	7104	B 6
2155	B 7	7105	C 7
2158	C 8	7106	D 6
2161	C 6	7107	D 5
2165	C 6	7108	E 5
2167	E 7	7109	E 5
2168	D 6	7110	C 7
2170	D 7	7112	D 4
2172	D 6	8031	D 7
2173	D 7	9101	E 7
2176	E 6	9102	D 8
2177	E 6	9103	D 8
2182	B 7	9105	B 8
3105	C 4	9106	D 7
3106	C 4	9107	D 7
3107	B 4	9109	E 6
3108	C 4	9110	C 7
3109	B 4	9111	E 6
3111	B 5	9112	B 6
3114	C 4	9115	C 6
3116	D 4	9116	D 6
3120	C 8	9117	C 6
3125	D 6	9118	B 6
3126	E 5	9119	B 5
3128	D 4	9120	E 6
3131	D 8	9121	B 5
3132	B 6	9122	D 5
3134	B 5	9123	D 5
3135	C 8	9124	D 5
3139	B 7	9125	D 4
3141	E 7	9128	E 4
3142	E 7	9129	C 4
3143	D 7	9134	E 8
3145	E 6	WIRE	D 7
3147	B 7		
3148	D 8		
3149	D 8		
3150	D 8		
3151	D 8		
3153	E 8		





2104	C 5	3113	B 3		
2105	C 5	3115	D 5		
2106	B 5	3117	C 2		
2107	B 5	3118	C 4		
2108	D 6	3119	C 4		
A 2112	B 5	3121	D 5		
2113	B 5	3122	C 3		
2114	C 5	3124	B 4		
2115	C 4	3127	D 4		
2116	B 4	3129	D 5		
2117	B 4	3130	C 2		
2118	C 4	3133	C 2		
2120	C 4	3136	B 1		
2124	D 2	3137	E 4		
2125	B 3	3138	B 1		
B 2126	B 3	3140	D 3		
2127	B 3	3144	D 3		
2128	C 3	3146	D 4		
2129	C 3	3156	B 1		
2132	C 4	3157	C 3		
2133	D 5	3158	B 3		
2136	D 6	3160	B 3		
2138	B 4	3161	B 5		
2140	B 3	3162	C 2		
2142	B 2	3163	B 4		
2143	B 2	3164	C 6		
C 2147	D 3	3170	B 5		
2148	D 3	3172	D 2		
2149	C 4	6101	C 5		
2156	B 2	6102	B 5		
2157	B 2	6110	B 4		
2159	B 1	6111	B 4		
2160	C 1	7111	C 2		
2162	C 3	7113	B 2		
2164	E 3	7114	B 2		
2166	C 3	7115	B 2		
2169	D 3	7116	D 2		
D 2171	B 2				
2174	E 3				
2175	E 3				
2178	B 4				
2179	E 2				
2180	C 2				
2181	C 2				
2183	C 2				
2184	C 4				
2185	C 2				
2186	B 3				
E 2187	B 3				
2188	B 5				
2189	B 6				
2191	C 5				
2192	C 4				
2193	C 4				
2194	C 4				
2195	C 1				
2198	B 4				
2199	D 3				
2200	B 2				
F 3101	C 5				
3102	C 5				
3103	D 5				
3104	C 5				
3112	B 5				

: ONLY FOR AUTOSTORE SETS

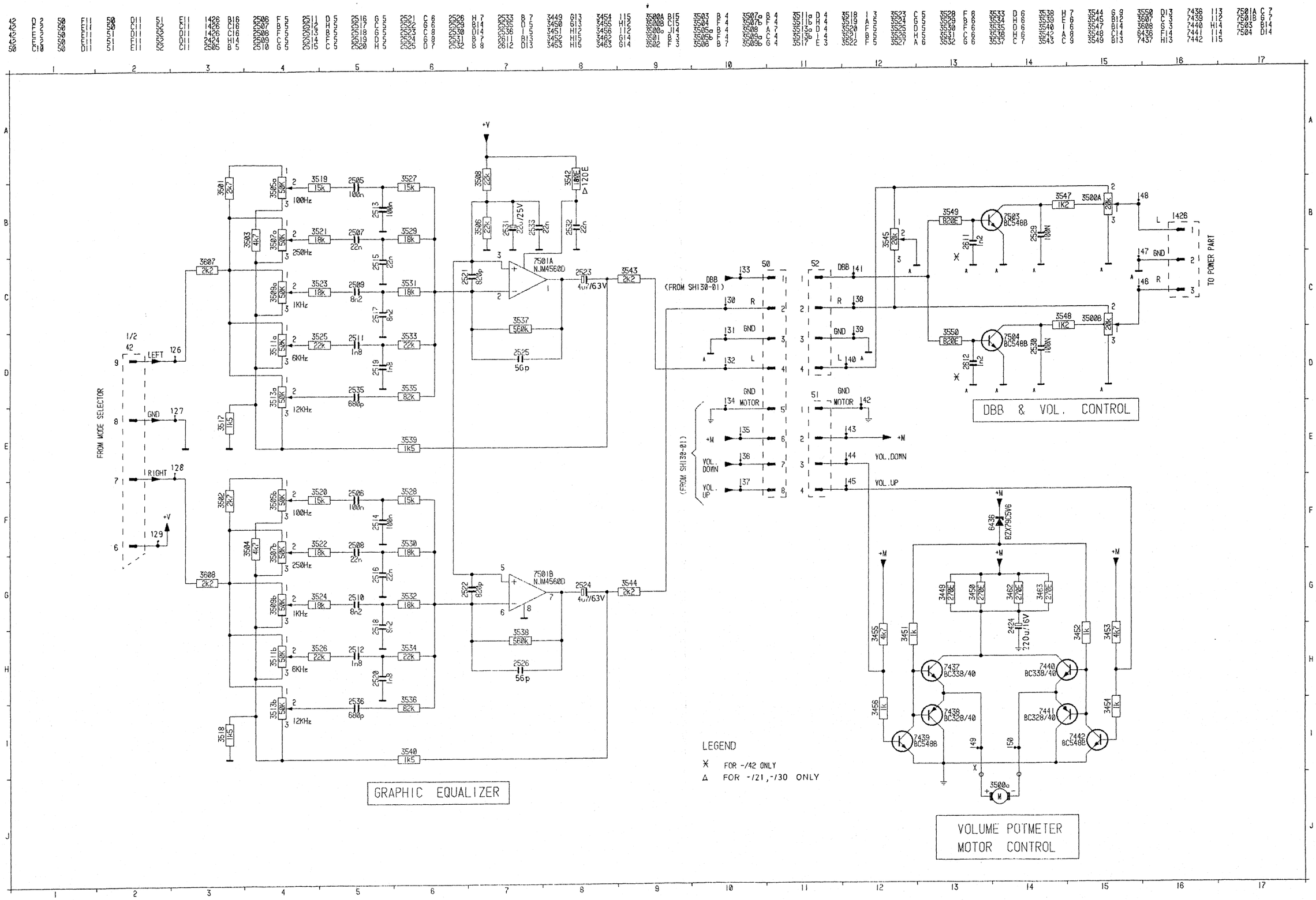
AS 9400 , AS 405
AS 9500 , AS 501
AS 9600

FTZ /02

Front circuit diagram I

| | | |

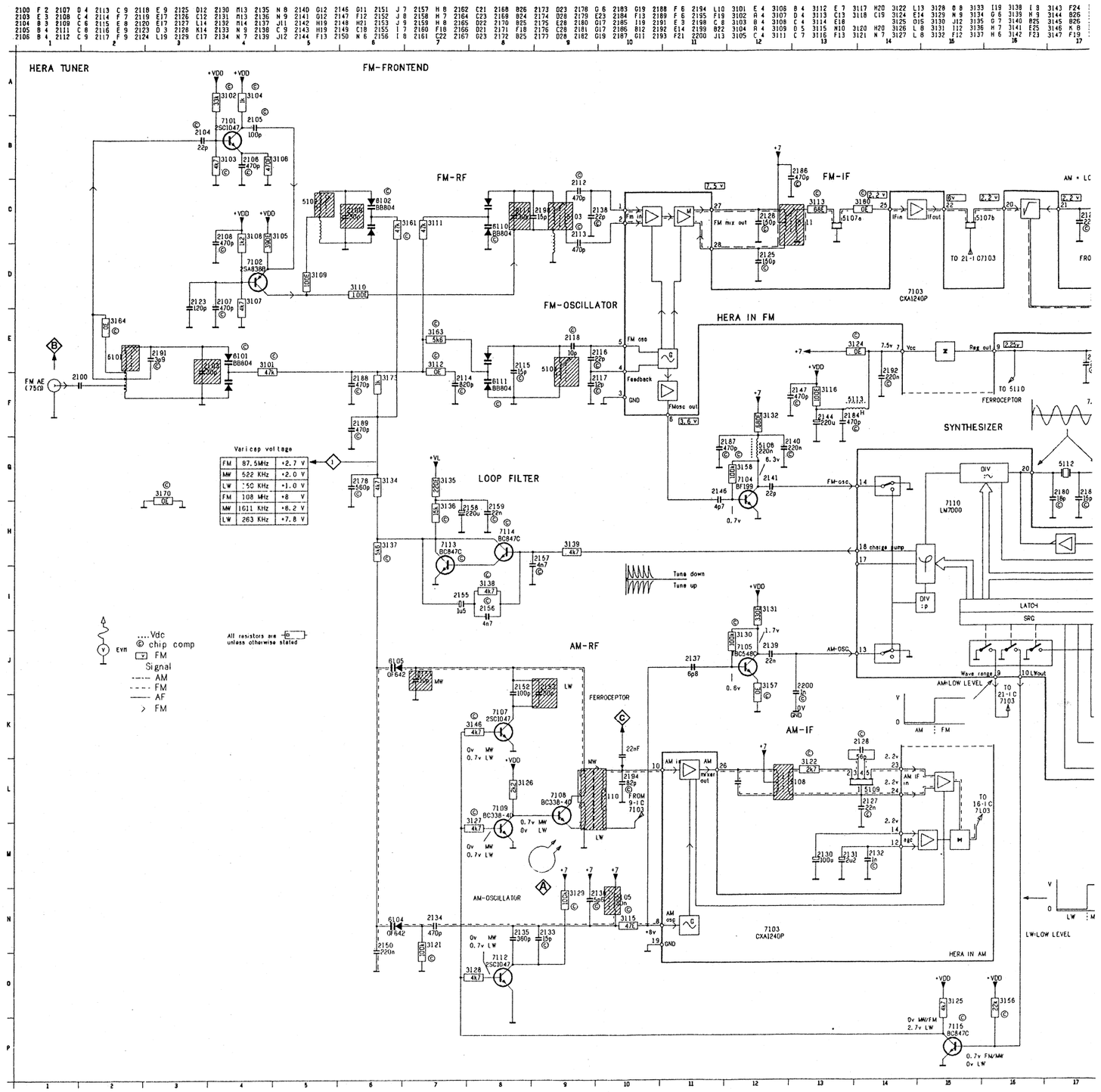
Front circuit diagram II

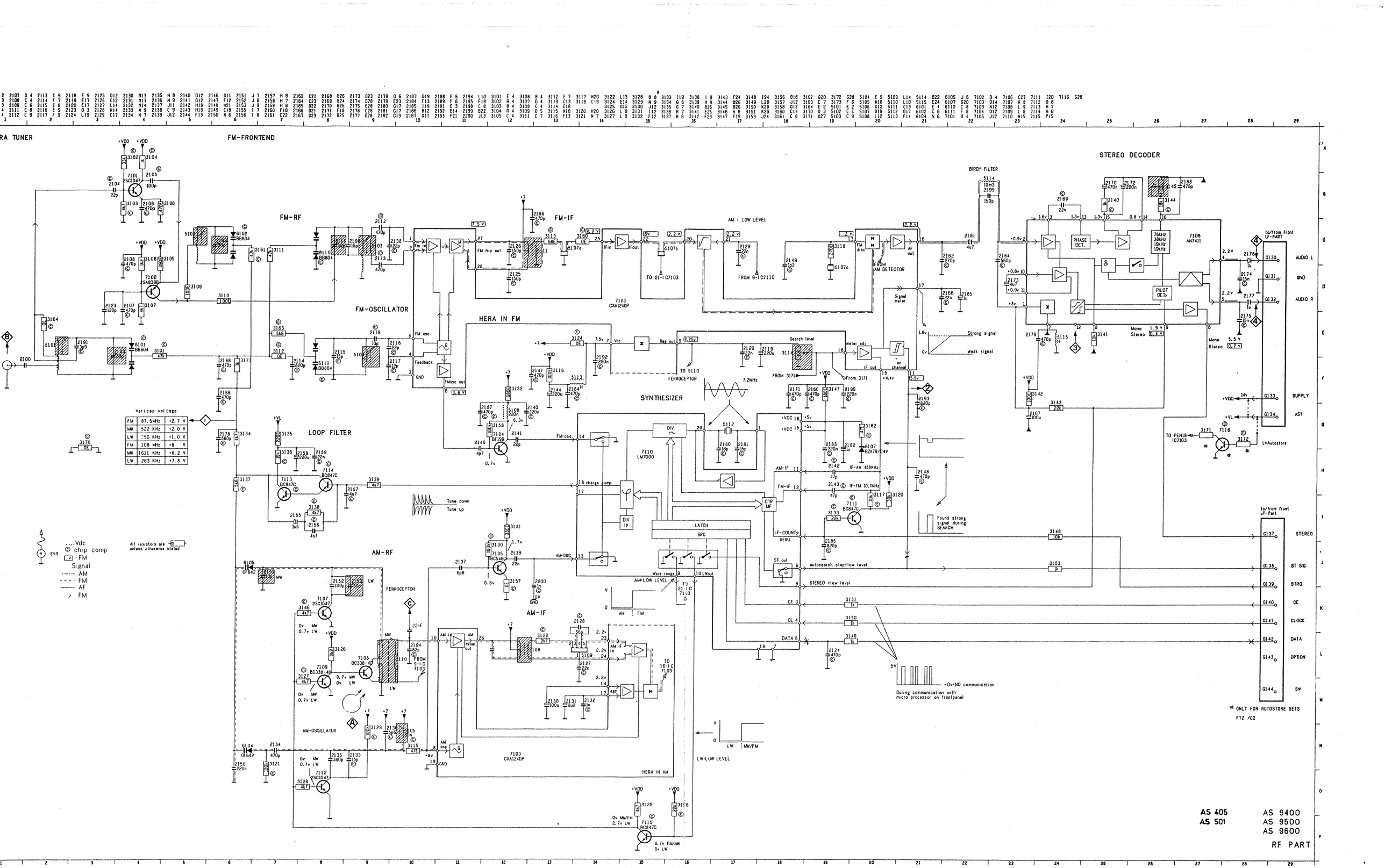


SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz	5104	1	8.0V (10.0V)
			87.5MHz	check		2.7V ± 0.4V (1.15V ± 0.25V)
LW 148-284kHz			284kHz 148kHz	5105 check	1	7.8V 1.0V ± 0.25V
MW 522-1611kHz			1611kHz 522kHz	check check		8.0V ± 0.5V 2.0V ± 0.3V
FM-IF						
FM	108MHz △f=500kHz (50Hz)	B	108MHz	5111	4	Symm + Linear
FM-RF						
FM	87.5MHz mod = 1kHz △f = 22.5kHz	B	87.5MHz	5103 (5102) (5101)	4	max.
	108MHz mod = 1kHz △f = 22.5kHz		108MHz	2111 (2109) (2103)		
Stereo decoder / Search sensitivity						
FM	98MHz carrier 1mV	B	98MHz	3145 #	3	19 ± 0.05kHz
	98MHz carrier 12µV			3114	2	5V 0V
AM-IF						
LW	450kHz $ △f = 10kHz (50Hz)	C	284kHz	5108	4	Symmetrical max fo
AM-RF						
MW	603kHz * 1494kHz *	A	603kHz 1494kHz	5110 2151	4	max.
LW	155kHz * 275kHz *		155kHz 275kHz	5110 2153		

* Mod 1kHz 30% AM
$ via 100nF
(..) For FTZ versions only
Temporary ground pin 9 of 7106

↕ Repeat

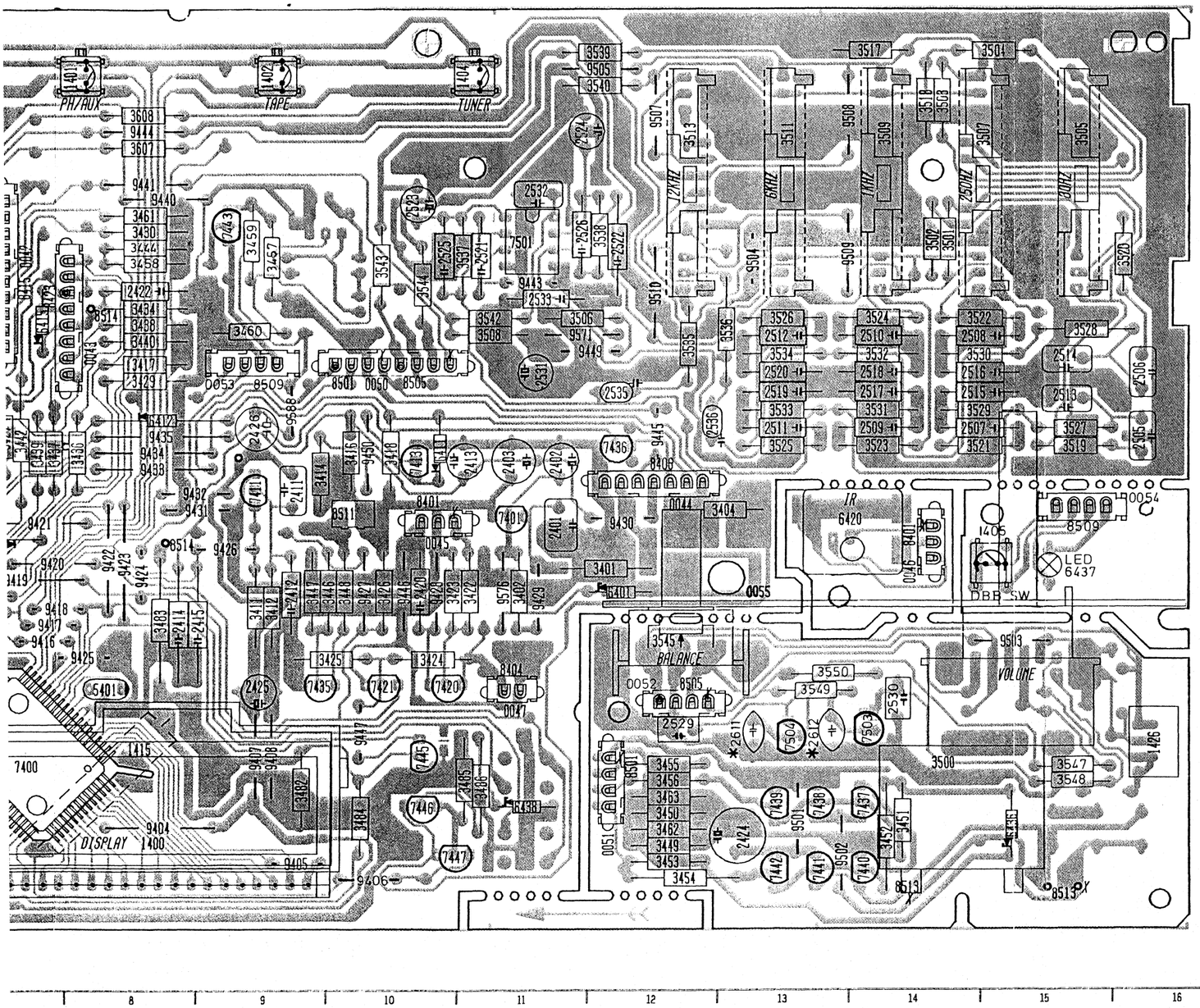



HERA TUNER
FM-FRONTEND
FM-RF
FM-IF
FM-OSCILLATOR
HERA IN FM
SYNTHESIZER
LOOP FILTER
AM-RF
AM-IF
AM-OSCILLATOR
HERA IN AM
FERROCEPTOR
STEREO DECODER
BIRDY-FILTER
7103 CXA1240P
7110 LM7000
7106 AN7411
7107 2SC1047
7102 2SA838S
7101 2SC1047
7104 BF199
7105 BC548
7108 BC338-40
7109 BC338-40
7112 2SC1047
7113 BC847C
7114 BC847C
7115 BC847C
7116 BZX79/C4V
7111 BC847C
Varicap voltage
FM 87.5MHz +2.7 V
MW 522 KHz +2.0 V
LW 150 KHz +1.0 V
FM 108 MHz +8 V
MW 1611 KHz +8.2 V
LW 263 KHz +7.8 V
Vdc
chip comp
FM
Signal
AM
FM
AF
FM
All resistors are unless otherwise stated
Tune down
Tune up
AM+LOW LEVEL
LW+LOW LEVEL
Strong signal
Week signal
Found strong signal during SEARCH
-0v=NO communication
During communication with micro processor on frontpanel
to/from front uP-Part
to/from front LF-PART
TO PEN18 IC7103
L=Autostore
# ONLY FOR AUTOSTORE SETS F1Z /02
AUDIO L
GND
AUDIO R
SUPPLY
AST
STEREO
ST SIG
STRQ
CE
CLOCK
DATA
OPTION
SW
AS 405
AS 501
AS 9400
AS 9500
AS 9600
RF PART

Front component layout

| | | |

3440	D 8	3455	G12	3486	C11	3518	B14	3532	D14	3548	G15	3564	D 5	3586	D 4	3602	E 2	3618	B 3	6417	G 5	6561	E 5	7435	F 9	7503	G14	2577	C5	2616	E1
3441	G 5	3456	G12	3500	C14	3519	D15	3533	D13	3549	F13	3565	E 4	3587	D 5	3603	C 2	3619	E 4	6420	E14	6562	E 9	7436	D12	7504	G13	2578	B5		
3442	D 7	3457	C 9	3501	C14	3520	C16	3534	D13	3550	F13	3566	E 4	3588	D 4	3604	E 2	3620	E 3	6436	G15	6563	B 3	7437	G14	7551	B 4	2601	C3		
3444	C 8	3458	C 8	3502	C14	3521	D14	3535	D12	3551	B 3	3567	E 4	3589	B 3	3607	B 8	3621	F 3	6437	E15	6564	B 3	7438	G13	7552	D 2	2602	D3		
3445	G 6	3459	C 9	3503	B14	3522	C14	3536	C13	3552	B 3	3568	E 4	3590	B 3	3608	B 8	3622	F 2	6551	C 3	6565	C 3	7439	G13	7553	E 3	2603	C4		
3446	E10	3460	C 9	3504	A15	3523	D14	3537	C11	3555	C 6			3591	C 3	3609	F 1	3623	D 1	6552	D 3	6566	C 3	7440	H14	7554	F 3	2604	C3	3553	C5
3447	E 9	3461	C 8	3505	B15	3524	C14	3538	C12	3556	B 6			3592	C 3	3610	F 2	3624	D 2	6553	C 3	6567	F 2	7441	H13			2607	E3	3554	C5
3448	E10	3462	G12	3506	C11	3525	D13	3539	A12	3557	D 5	3571	C 5	3595	C 2	3611	F 2	5401	F 8	6554	D 3	7400	G 7	7442	H13			2608	E3	3573	C5
3449	G12	3463	G12	3507	B15	3526	C13	3540	B12	3558	D 5	3572	B 5	3596	E 3	3612	F 2	6401	E12	6555	E 4	7401	E11	7443	B 9	2553	C 5	2609	D3	3574	B5
3450	G12	3481	C 7	3508	C11	3527	D15	3542	C11	3559	D 5	3581	C 4	3597	C 2	3613	F 1	6410	E 7	6556	E 4	7403	G 5	7444	C 7	2554	B 5	2610	D3	3575	C5
3451	G14	3482	G 9	3509	B14	3528	C15	3543	C10	3560	D 5	3582	C 4	3598	E 3	3614	F 2	6411	D10	6557	E 3	7411	E 9	7445	G10	2569	C 4	2611	G13	3576	B5
3452	G14	3483	F 8	3511	B13	3529	D14	3544	C10	3561	E 5	3583	C 5	3599	C 2	3615	D 4	6412	D 8	6558	E 3	7413	D10	7446	G10	2570	B 4	2612	G13	3577	C4
3453	G12	3484	G10	3513	B12	3530	D14	3545	F12	3562	D 5	3584	C 4	3600	E 2	3616	B 4	6413	G 5	6559	F 3	7420	F10	7447	G10	2571	C 4	2613	E2	3578	B5
3454	H12	3485	G11	3517	A14	3531	D14	3547	G15	3563	E 5	3585	D 4	3601	C 2	3617	B 3	6415	C 7	6560	F 3	7421	F10	7501	C11	2572	B 4	2614	F2	3579	C4
			8				9				10				11				12				13				14				15		16	2615	C1	3580	B4
																														3606	D4

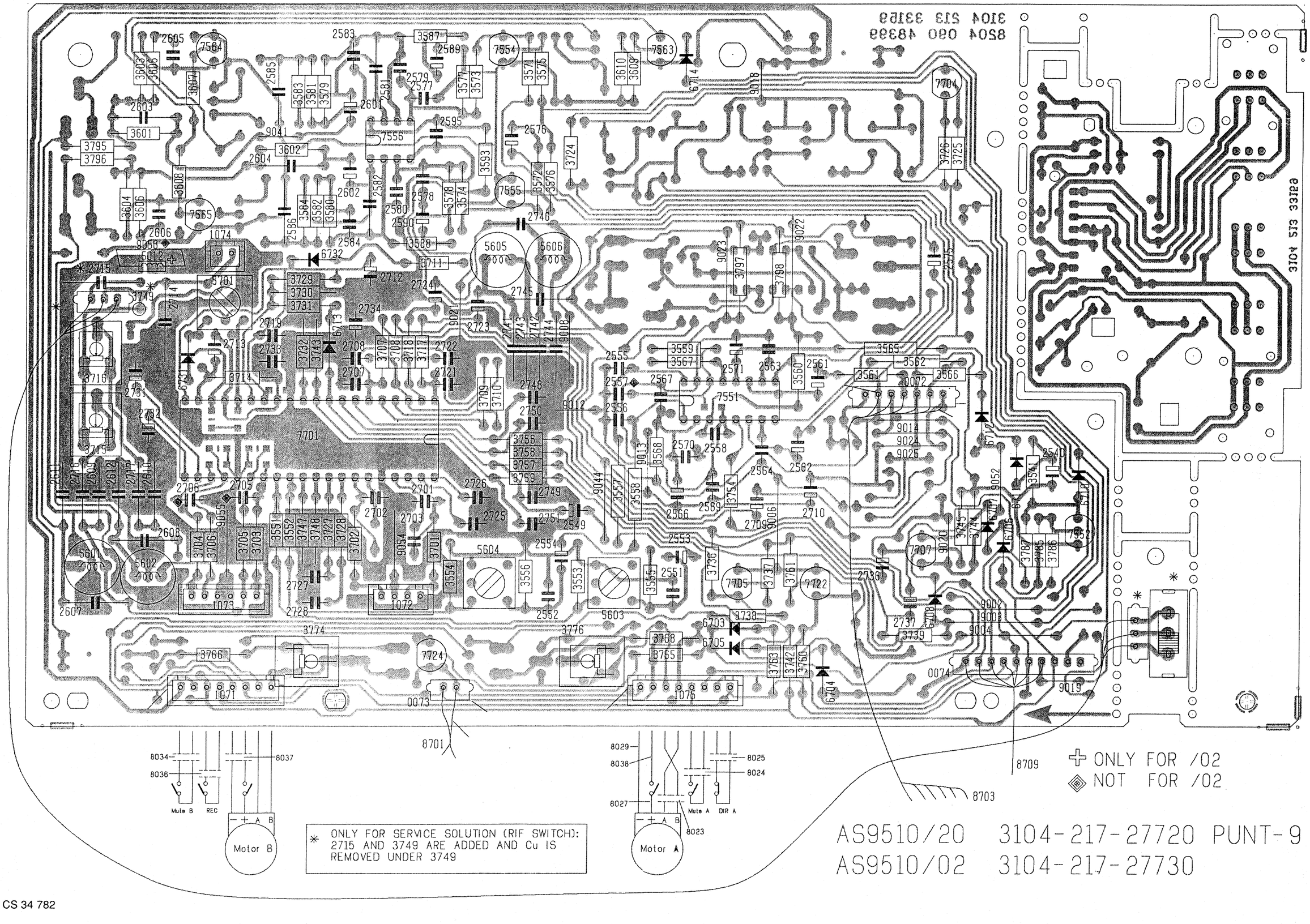


	8401	E14	9502	G13	
	8401	E10	9503	F15	
	8404	F11	9504	C13	
	8403	D12	9505	A12	
A			9507	B12	
	8415	C 7	9508	B13	
			9509	C13	
	8423	C 7	9510	C12	
	8501	G12	9551	F 2	
	8501	D10	9552	F 2	
	8505	D10	9553	F 3	
	8505	F12	9555	E 4	
			9556	F 5	
B	8509	D 9			
	8509	E15			
	8511	E10			
	8513	H14	9559	D 3	
	8513	H15	9560	D 3	
	8514	C 8	9561	F 5	
	8514	E 8	9565	C 5	
	8551	A 3	9568	B 4	
	9401	G 6	9571	C11	
C	9402	G 6	9576	E11	
	9403	G 7	9584	C 6	
	9404	G 8	9585	C 5	
	9405	H 9	9587	C 3	
	9406	H10	9588	D 9	
	9407	G 9	9589	E 6	
	9408	G 9			
	9409	F 6			
D	9410	F 6			
	9411	F 6			
	9412	F 6			
	9413	F 6			
	9414	F 7			
	9415	E 7			
	9416	F 7			
	9417	F 7			
	9418	F 7			
E	9419	E 7			
	9420	E 7			
	9421	E 7			
	9422	E 8			
	9423	E 8			
	9424	E 8			
	9425	F 8			
	9426	E 9			
F	9427	E10			
	9428	E10			
	9429	E11			
	9430	E12			
	9431	E 9			
	9432	E 8			
	9433	D 8			
	9434	D 8			
	9435	D 8			
G					
	9438	C 7			
	9440	B 8			
	9441	B 8			
	9443	C11			
	9444	B 8			
	9445	D12			
H	9446	E10			
	9447	G10			
	9449	D12			
	9450	D10			
	9501	G13			

NOTE :

- ✱ FOR -/42 ONLY
- △ FOR -/37 ONLY
- @ NOT FOR -/42

Recorder component layout I



AS9510/20 3104-217-27720 PUNT-9
AS9510/02 3104-217-27730

Bias Oscillator Adjustment

Adjust	Voltages across the 3703 or 3704
3715	13mV in Cr mode
3716	13mV in Cr mode

7564

e : 5.9V
b : 7.1VFe
0VCr
c : 6.3VFe
6.0VCr

7565

e : 5.9V
b : 7.1VFe
0VCr
c : 6.3VFe
6.0VCr

7704

e : 0V
b : 0V
0.7V
c : 12.4V
0.1V

7705

e : 0V
b : 0V
0.7V
c : 10.2V
0.1V

7707

e : 12.2rec
11.5V
0V
b : 11.9V
10.9V
0V
c : 0V
11.4V

7552

e : 0V
b : 0V
0.8rec
c : 11.6V
0.1Vrec

7554

e : 5.9V
b : 6.6V
0.3Vrec
c : 5.9V

7555

e : 5.9V
b : 6.6V
0.3Vrec
c : 5.9V

7563

e : 12.4VFe
6.0VCr
b : 11.7VFe
6.0VCr
c : 12.4VFe
0VCr

7701

1 : 5.9V
2 : 5.9V
3 : 5.9V
4 : 5.9V
5 : 5.9V
6 : 5.9V
7 : 9.6V
0.1V
8 : 10.3V
0.1V
9 : 10.2V
10 : 0V
5.5Vrec
11 : 0.3V
12 : 5.9V
13 : 0V
14 : 11.7V
15 : 5.1V
16 : 11.7V
17 : 0V
18 : 11.0V
19 : 0.7V
20 : 11.7V
21 : 5.9V
22 : 5.9V
23 : 5.9V
24 : 5.9V
25 : 5.9V
26 : 5.9V
27 : 5.9V
28 : 5.9V
29 : 5.9V
30 : 5.9V
31 : 5.9V
32 : 6.0V
33 : 6.0V
34 : 5.9V
35 : 5.7V
36 : 5.9V
37 : 5.8V
38 : 5.9V
39 : 6.2V
40 : 6.2V

7551

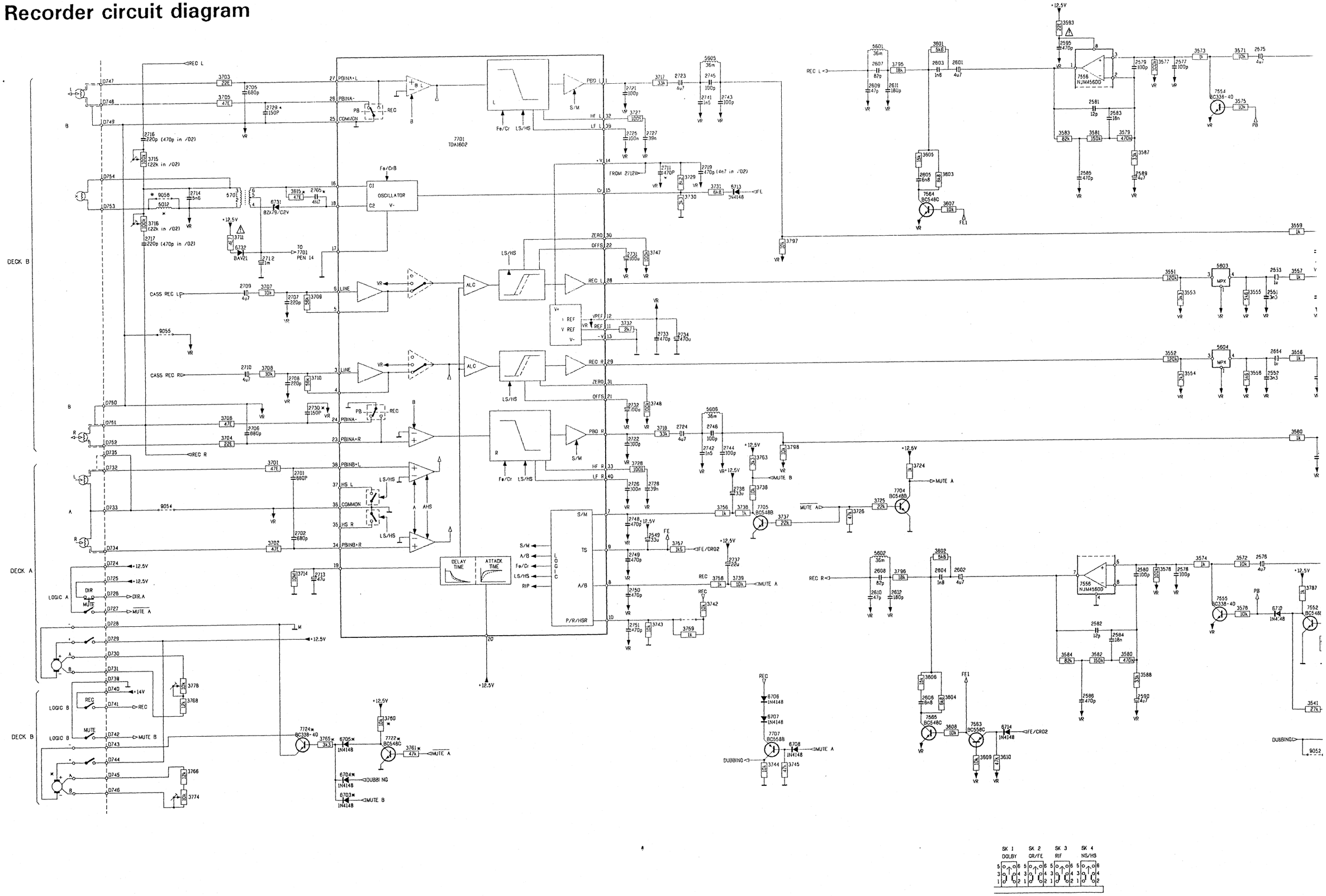
1 : 5.9V
2 : 12.6V
3 : 5.9V
4 : 5.9V
5 : 0Vdn
12.7Vdf
6 : 5.9V
7 : 0.4V
8 : 5.9V
9 : 5.9V
10 : 0.4V
11 : 5.9V
12 : 0V
3.9Vrec
11.0V
13 : 12.0V
14 : 5.9V
15 : 0V
16 : 5.9V

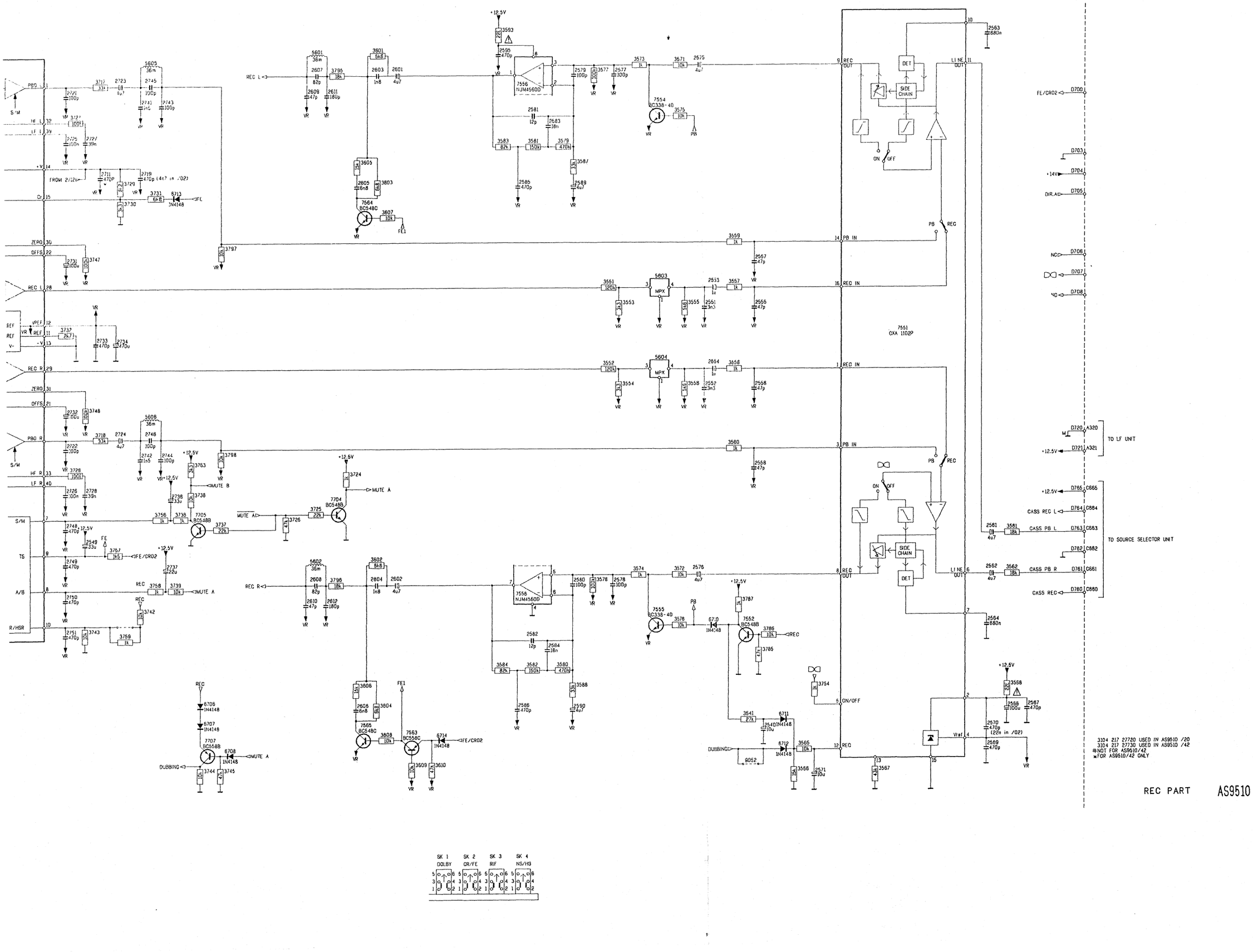
7556

1 : 5.9V
2 : 5.9V
3 : 5.9V
4 : 0V
5 : 5.9V
6 : 5.9V
7 : 5.9V
8 : 12.6V

....V measured in tape on position
V measured in tape A play position
V measured in tape dubbing on position
....Vrec measured in tape recording position
....Vdn measured in dolby on position
....Vdf measured in dobly off position
....VFe measured in tape Fe on position
....VCr measured in tape Cr on position

Recorder circuit diagram





REC PART AS9510

CS 34 783

+V : 11.0V

MOT : 12.5V

	7401	7420	7421
e	5.1V	5.0V	0V
b	5.7V	5.0V	0V
c	16.5V	0V	3.7V

	7443	7445	7446
e	5.1V	5.0V	10.7V
b	5.7V	5.0V	10.1V
c	16.5V	0V	10.0V

7501

1	6.2V
2	6.2V
3	6.2V
4	0V
5	6.2V
6	6.2V
7	6.2V
8	11.7V

7552

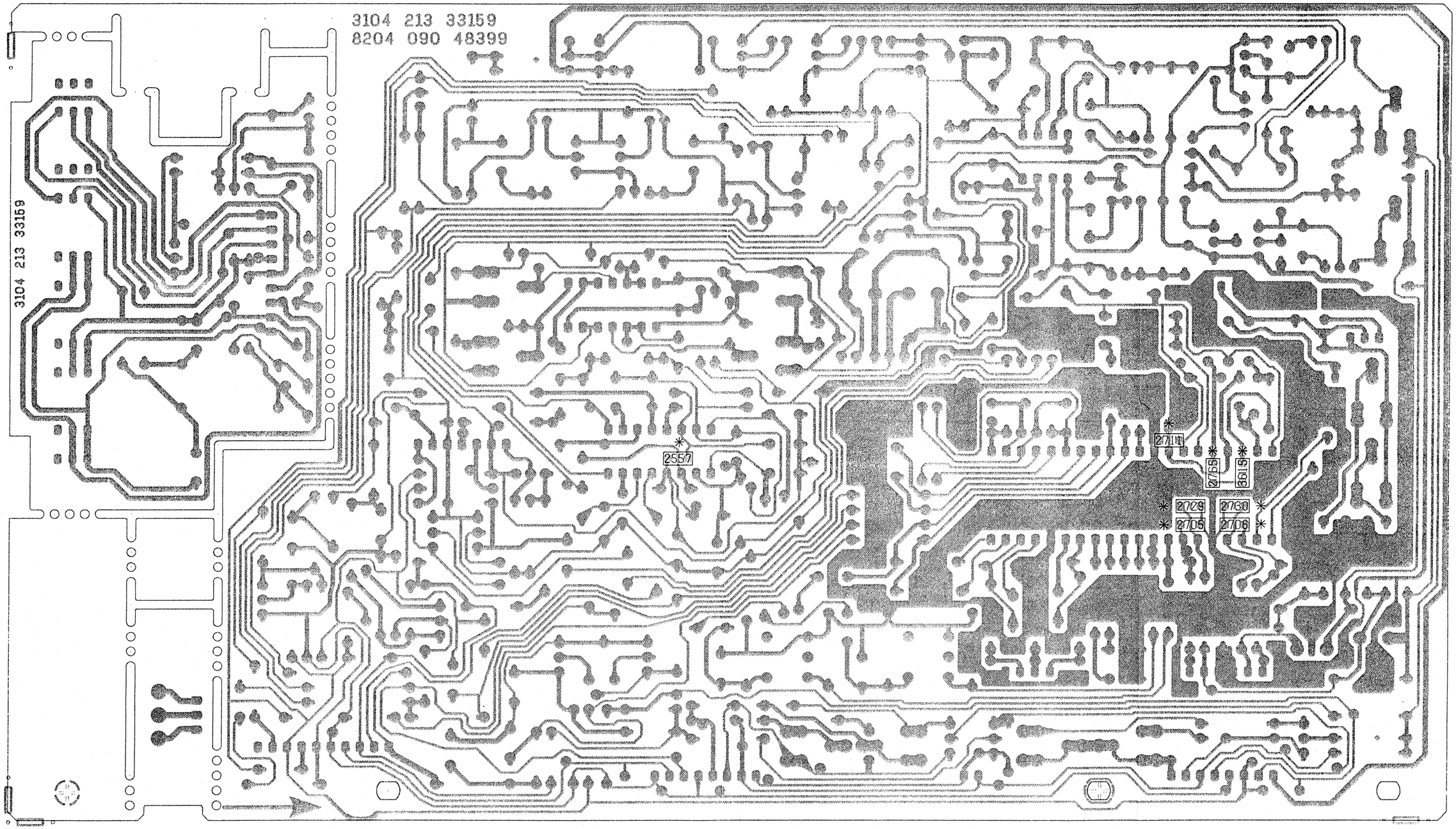
1	4.8V
2	4.8V
3	4.8V
4	0V
5	4.8V
6	4.8V
7	4.8V
8	9.6V

ITEM	NORMAL	VOLUME DOWN	VOLUM UP
7437			
e	10.2V	0.7V	6.1V
b	9.3V	0V	6.8V
c	12.5V	9.0V	9.0V
7438			
e	10.2V	0.7V	6.1V
b	9.3V	0V	6.8V
c	0V	0V	0V
7439			
e	0V	0V	0V
b	0.5V	0.7V	0.2V
c	9.3V	0V	6.8V
7440			
e	10.2V	6.1V	0.7V
b	9.3V	6.8V	0V
c	12.5V	9.0V	9.0V
7441			
e	10.2V	6.1V	0.7V
b	9.3V	6.8V	0V
c	0V	0V	0V
7442			
e	0V	0V	0V
b	0.2V	0.2V	0.7V
c	9.3V	6.8V	0V

Front circuit diagram III

CS 34 781

Recorder component layout II

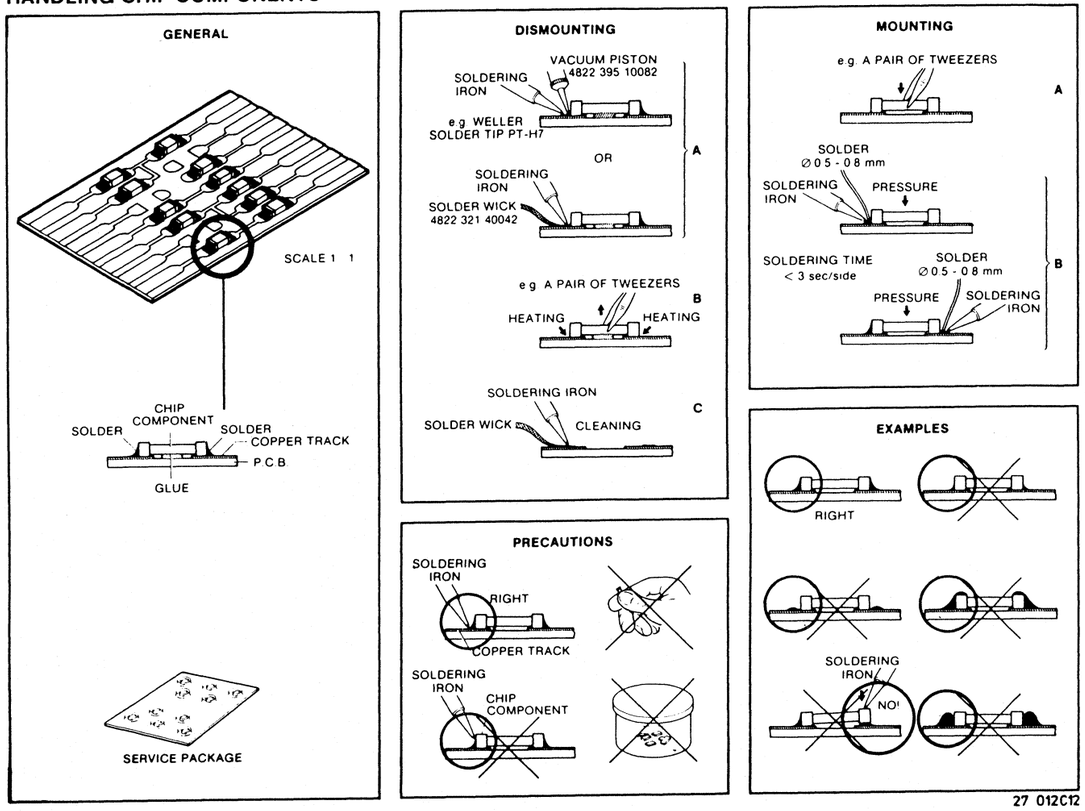


AS9510/20 3104-217-27720 PUNT-9
AS9510/02 3104-217-27730

* ONLY FOR 3104-217-27730
OR PLATECAPS AS NEAR AS POSSIBLE
TO THE PINS OF THE IC S

DATE 91-07-03 CAD

HANDLING CHIP COMPONENTS



27 012C12

Carbon film 0.2 W CR16	70°C	5%	
Carbon film 0.33 W CR25	70°C	5%	
Carbon film 0.5 W CR37	70°C	5%	
Standard film 0.5 W SFR16T	70°C	5%	
Standard film 0.4 W SFR25	70°C	5%	
Metal film 0.6 W MRS25	70°C	5%	
Safety resistor			

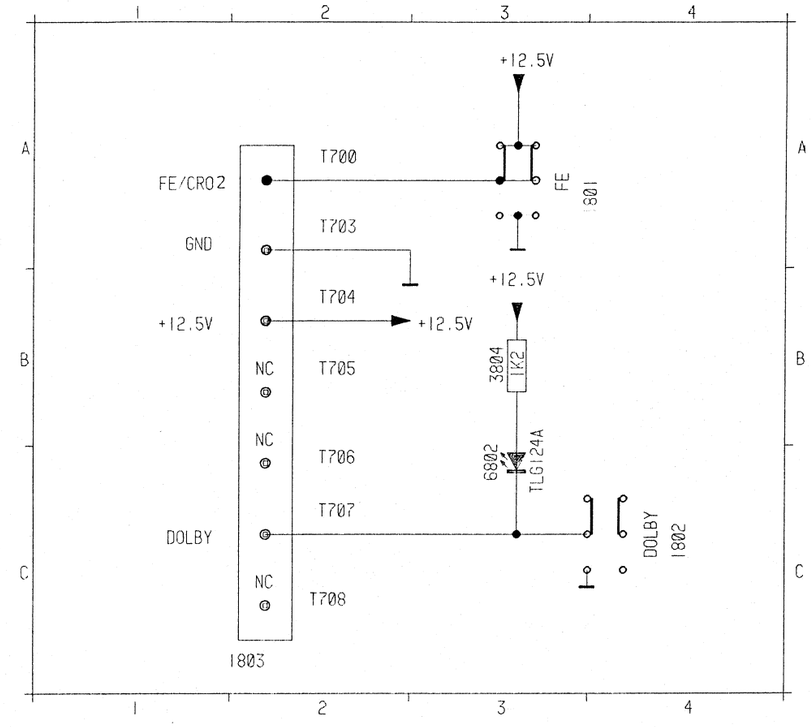
Ⓒ Chip component

Plate ceramic Tuning < 120 pF		2%
Plate ceramic Others		—20/+80%
Tubular ceramic		
Polystyrene film / foil		1%
Polyestor Film / foil		10%
Mylar		10%
Electrolytic		

* a = 2.5 V
b = 4 V
c = 6.3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1.6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

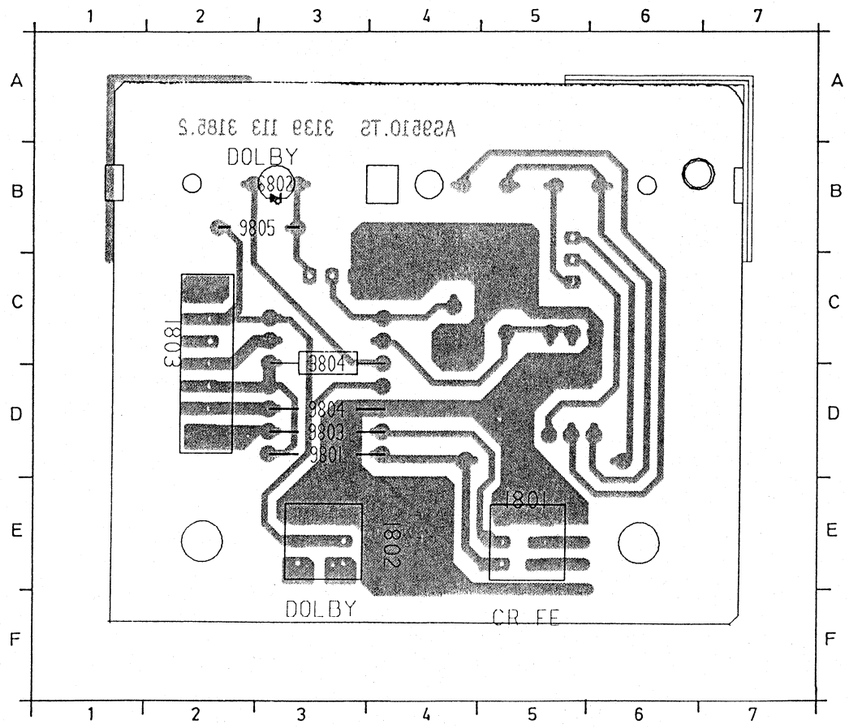
26338

Tape mode circuit diagram



1801	A	4
1802	C	4
1803	C	1
3804	B	3
6802	C	3

Tape mode component layout



1801	E	5
1802	E	4
1803	C	2
3804	C	3
6802	B	3
9801	D	3
9803	D	3
9804	D	3
9805	B	2

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les piéces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

GB **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

F **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

ESD

D **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

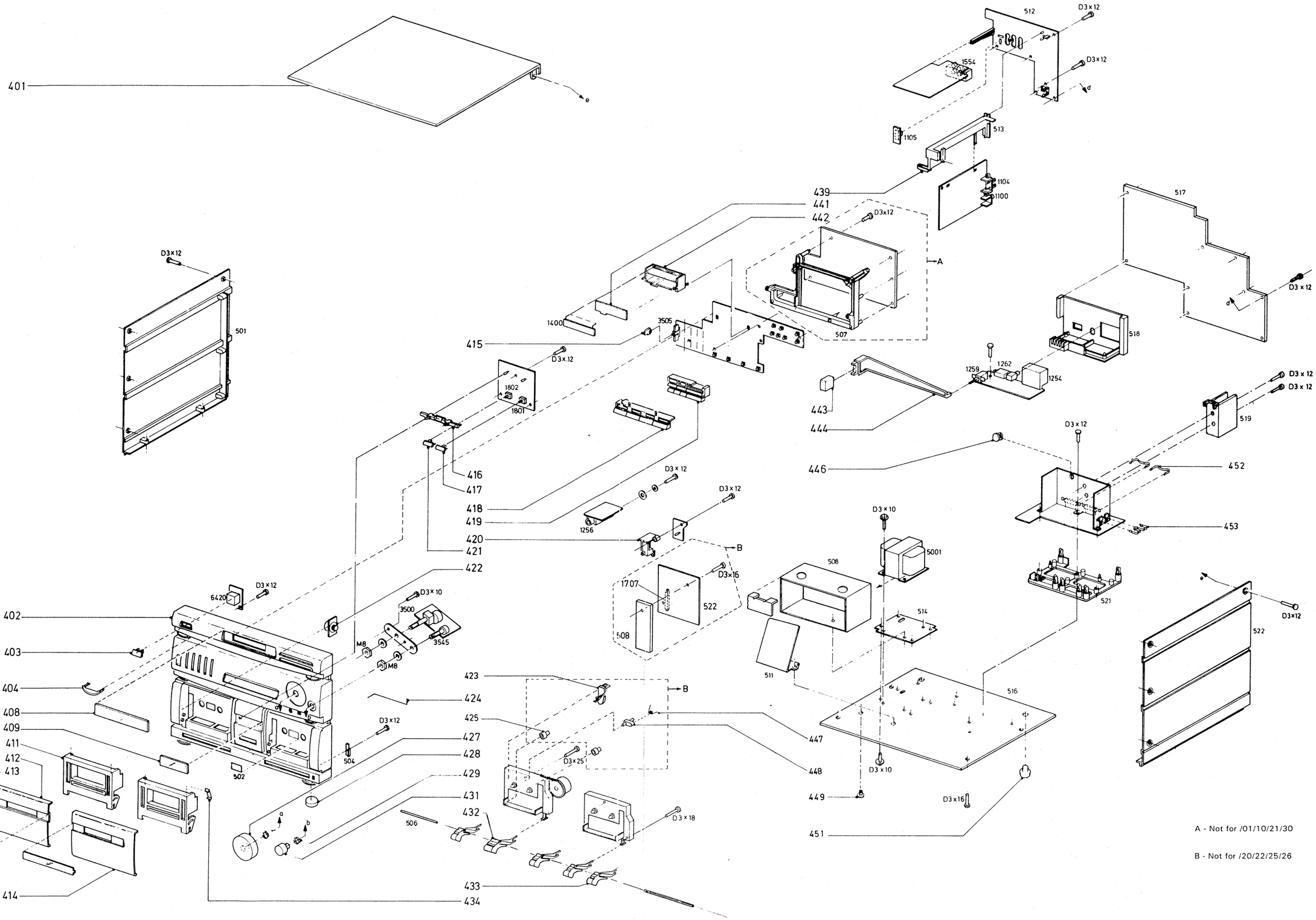
NL **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

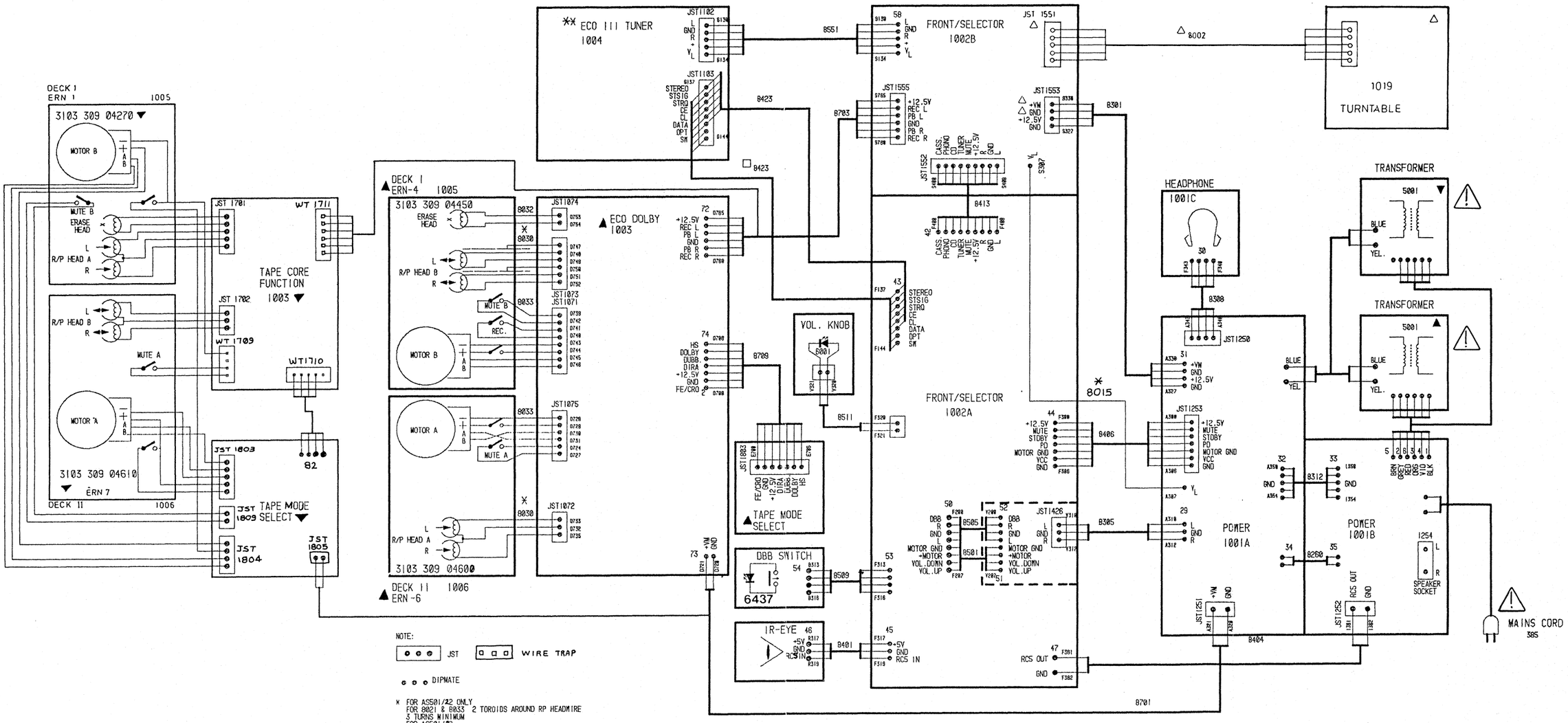
Set Exploded View



CS 34 786

SUPL

Set wiring diagram



NOTE:

JST WIRE TRAP

DIPMATE

* FOR AS501/22 ONLY
FOR 8021 & 8033 2 TOROIDS AROUND RP HEADWIRE
3 TURNS MINIMUM
FOR AS501/22

** CHANGE TO HERA TUNER FOR -/22

□ FOR AS501/01,-/21,-/37 AND AS505/21 ONLY

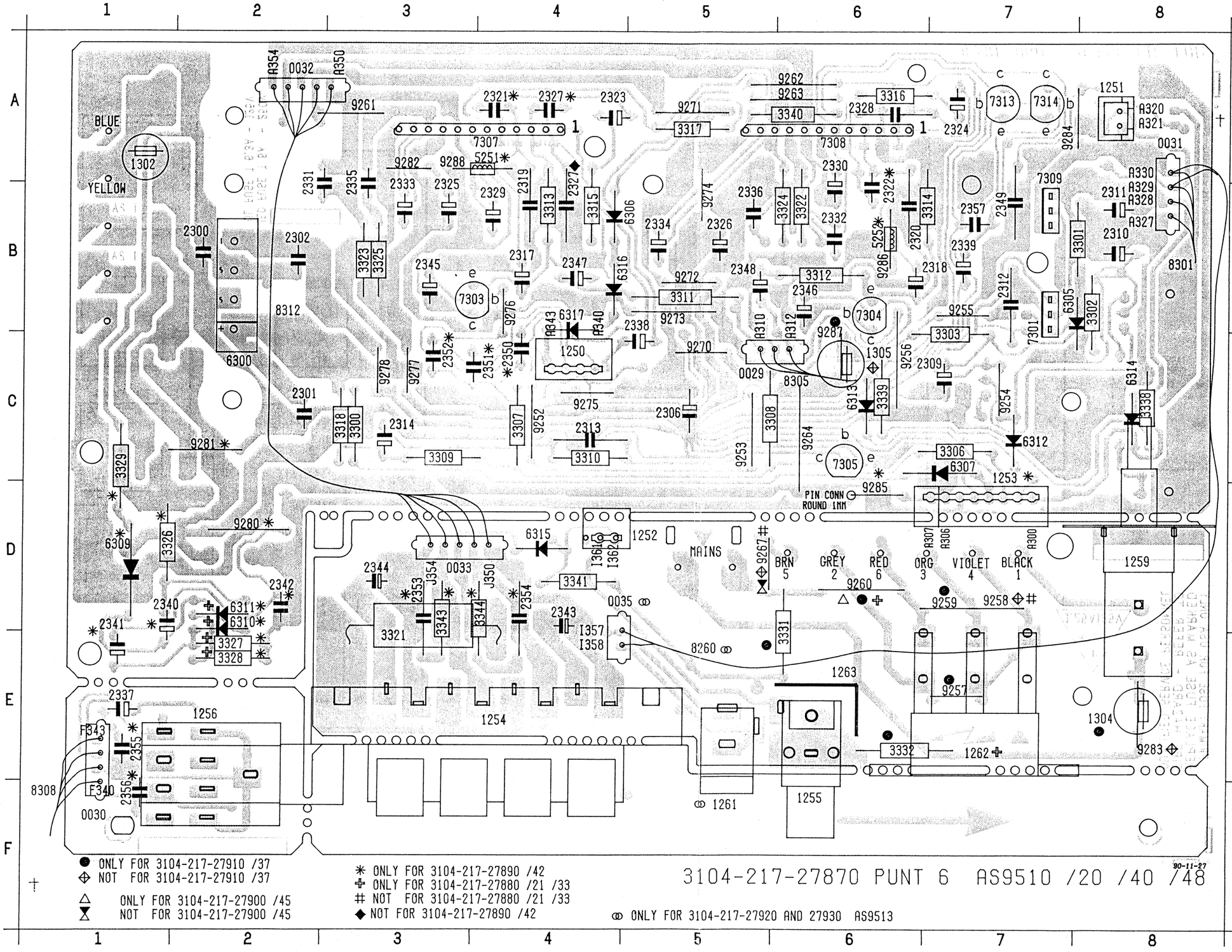
▲ NOT FOR AS501/01, -/10,-/21,-/30 AND AS505/21

▼ FOR AS501/01, -/10 , -/21 ,-/30 AND AS505/21

△ FOR AS505 FAMILY

CS 34 776A

Power component layout

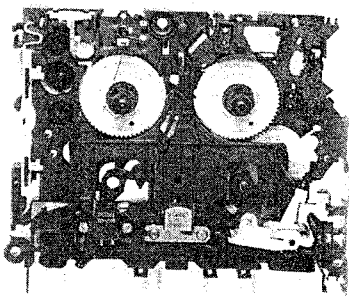


0029	C 5	2350	C 4	7313	A 7
0030	F 1	2351	C 4	7314	A 7
0031	A 8	2352	C 3	9252	C 4
0032	A 2	2353	D 3	9253	C 5
0033	D 3	2354	D 4	9254	C 7
0035	D 4	2355	E 1	9255	B 7
1250	C 4	2356	F 1	9256	C 6
1251	A 8	2357	B 7	9257	E 7
1252	D 5	3300	C 3	9258	D 7
1253	C 7	3301	B 8	9259	D 7
1254	E 4	3302	B 8	9260	D 6
1255	F 6	3303	C 7	9261	A 3
1256	E 2	3306	C 7	9262	A 6
1259	D 8	3307	C 4	9263	A 6
1261	F 5	3308	C 6	9264	C 6
1262	E 7	3309	C 3	9267	D 5
1263	E 6	3310	C 4	9270	C 5
1302	A 1	3311	B 5	9271	A 5
1304	E 8	3312	B 6	9272	B 5
1305	C 6	3313	B 4	9273	B 5
2300	B 2	3314	B 7	9274	B 5
2301	C 2	3315	B 4	9275	C 4
2302	B 2	3316	A 6	9276	B 4
2306	C 5	3317	A 5	9277	C 3
2309	C 7	3318	C 3	9278	C 3
2310	B 8	3321	E 3	9280	D 2
2311	B 8	3322	B 6	9281	C 2
2312	B 7	3323	B 3	9282	A 3
2313	C 4	3324	B 6	9283	E 8
2314	C 3	3325	B 3	9284	A 7
2317	B 4	3326	D 1	9285	D 6
2318	B 7	3327	E 2	9286	B 6
2319	A 4	3328	E 2	9287	C 6
2320	B 6	3329	C 1	9288	A 3
2321	A 4	3331	D 6		
2322	B 6	3332	E 6		
2323	A 4	3338	C 8		
2324	A 7	3339	C 6		
2325	B 3	3340	A 6		
2326	B 5	3341	D 4		
2327	A 4	3343	D 3		
2327	B 4	3344	D 4		
2328	A 6	5251	A 4		
2329	B 4	5252	B 6		
2330	A 6	6300	C 2		
2331	A 2	6305	B 7		
2332	B 6	6306	B 5		
2333	B 3	6307	C 7		
2334	B 5	6309	D 1		
2335	A 3	6310	D 2		
2336	B 5	6311	D 2		
2337	E 1	6312	C 7		
2338	B 5	6313	C 6		
2339	B 7	6314	C 8		
2340	D 1	6315	D 4		
2341	D 1	6316	B 4		
2342	D 2	6317	B 4		
2343	D 4	7301	B 7		
2344	D 3	7303	B 3		
2345	B 3	7304	B 6		
2346	B 6	7305	C 6		
2347	B 4	7307	A 4		
2348	B 5	7308	A 6		
2349	B 7	7309	A 7		

4426

Tape transport RN4

Service
Service
Service



45 190 A1

For details and exploded view see Service Manual of tape transport RN/RR, RDN/RDR (general documentation) 1025

Service Manual

(GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Capstan
- Pressure roller

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Toonas
- Drukrol

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Cabestan
- Galet presseur

(D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Tonachse
- Andruckrolle

(I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

- Testina di cancellazione
- Testina di registrazione/riproduzione
- Capstan
- Rullo preminastro

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçi

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
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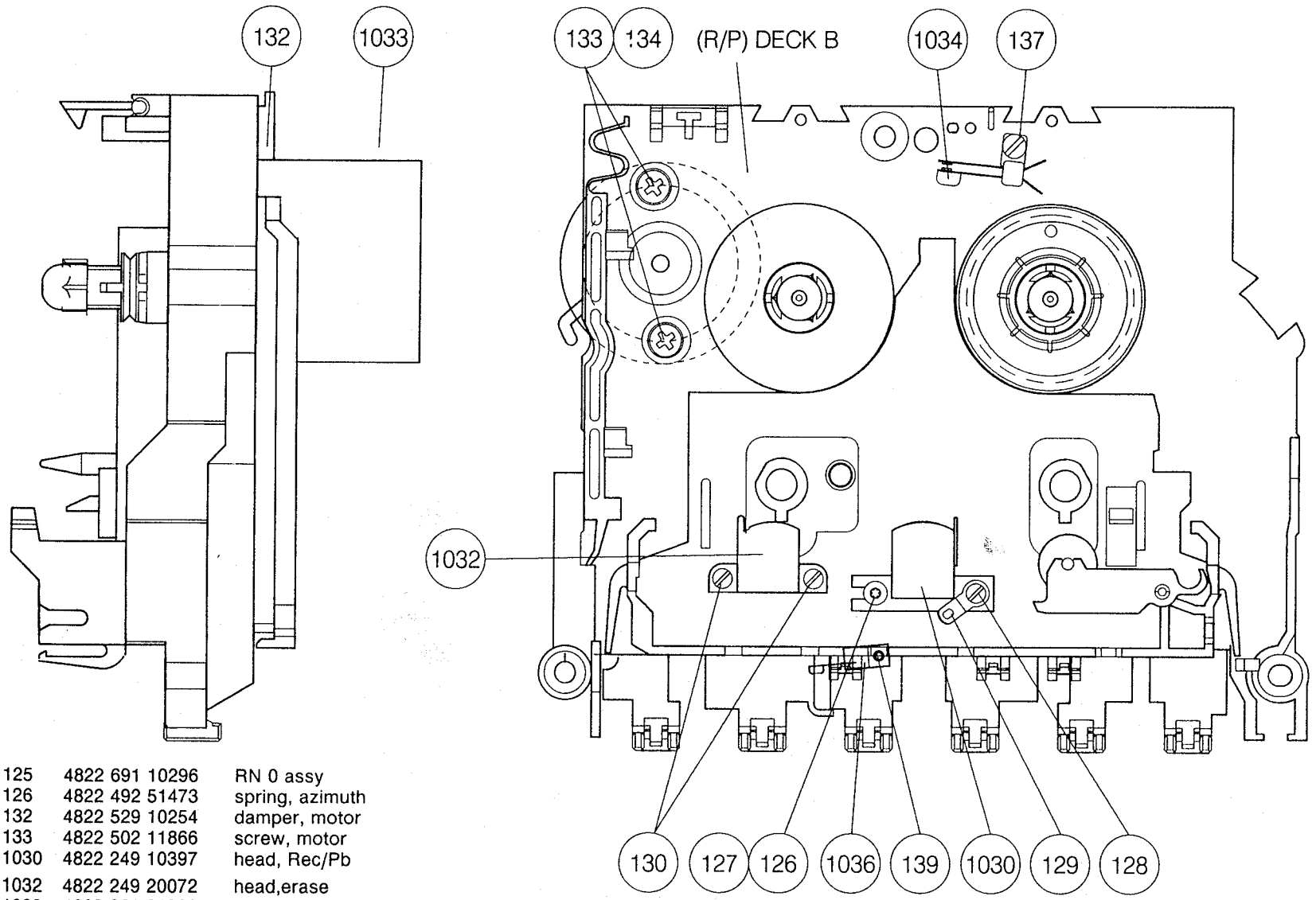
Consumer Electronics
4426
CS 33 835

STRIPPED VERSION WITHOUT NOTED ITEMS IS CALLED AND HANDLED AS RN0 4822 691 10296



125	4822 691 10296	RN 0 assy
126	4822 492 51473	spring, azimuth
132	4822 529 10254	damper, motor
133	4822 502 11866	screw, motor
1030	4822 249 10397	head, Rec/Pb
1032	4822 249 20072	head,erase
1033	4822 361 21323	motor
1034	4822 271 30598	switch, indication play
1036	4822 278 90624	switch, record

Only those parts of which a service code number is stated are serviceparts

MDA.2554
T28/008

ADJUSTMENT	CASSETTE	SK...	Recorder position		MEASURE	READ ON	ADJUST	ADJUST TO
			DECK I	DECK I	ON			
Azimuth	10kHz SBC 420 *	Tape	Play	–	1256	mV-meter	Left hand Screw Play head	Max. L = R
		Tape	–	Play fwd	1256	mV-meter	Left hand Screw R/P Head	
		Tape	–	Play rev	1256	mV-meter	Right hand Screw R/P Head	
Motor speed (Normal)	3150Hz SBC420 *	Tape	Play	–	1256	Wow and Flutter meter	3774	** a
		Tape	–	Play	1256	Wow and Flutter meter	3776	

* SBC 420 : 4822 397 30071

** a The maximum permissible speed deviation is 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.35%.

SPECIFICATIONS

GENERAL

Mains voltage		:	120V - 220V - 240V
Mains selection/setting		:	Serviceable Set at 220V
Mains frequency		:	50 - 60Hz
Power consumption		:	120W max.
Dimension centre unit		:	360 x 316 x 304mm

TUNER : FM SECTION

Tuning range		:	87.5MHz - 108MHz
Tuning grid		:	50kHz
IF frequency		:	10.7MHz
Aerial input		:	75Ω coaxial
Sensitivity at 26dB S/N		:	< 4µV
Selectivity at 600kHz bandwidth		:	> 72dB
IF rejection		:	> 80dB
Image rejection		:	> 80dB

TUNER : AM SECTION

Tuning range	MW	:	522kHz - 1611kHz
	LW	:	148kHz - 284kHz
Tuning grid		:	9kHz
IF frequency		:	450kHz
Sensitivity at 26dB S/N	MW	:	< 3.25mV/M
	LW	:	< 4.0mV/M
Selectivity at 18kHz bandwidth		:	> 28dB
IF rejection		:	> 40dB
Image rejection	MW	:	> 30dB
	LW	:	> 34dB

AMPLIFIER

Output power at 10% distortion		:	2 x 20W -1dB
Speaker impedance		:	2 x 8Ω L/R
		:	2 x 8Ω surround sound
Frequency response within -3dB		:	60Hz - 14kHz
Equalizer control		:	-7dB to +7dB
Dynamic bass boost		:	+8dB at 100Hz
Headphone output at 33Ω		:	800mV
Remote control output		:	5V non-inverted RC5
Input sensitivity	Aux/TV	:	250mV at 47kΩ
	CD	:	400mV at 47kΩ
	Phono	:	2.5mV at 47kΩ
Phono Supply output		:	12Vdc 100mA

CASSETTE RECORDER

Number of track		:	2 x 2 stereo
Tape speed		:	4.76 cm/sec ± 2%
Wow and flutter		:	< 0.4%
Fast - wind time C60		:	130 sec
Bias system		:	74kHz ± 6kHz
Recording playback frequency response within -7dB		:	125Hz - 12.5kHz
Signal to noise ratio		:	> 51dB
	Dubbing	:	> 48dB
Dolby noise reduction		:	8.5dB

2127	5322 122 32654	22nF 10% 63V
2128	5322 122 32661	56pF 5% 50V
2129	5322 122 32654	22nF 10% 63V
2130	4822 124 41584	100µF 20% 10V
2131	4822 124 40244	2.2µF 20% 63V
2132	5322 122 34123	1nF 10% 50V
2133	4822 122 32504	15pF 5% 50V
2134	5322 121 50999	470pF 1% 400V
2135	4822 121 43253	360pF 1% 400V
2136	4822 126 10388	5.6pF 50V
2137	4822 122 10436	6.8pF 10% 50V
2138	4822 122 32482	22pF 5% 63V
2139	4822 122 10166	22nF 30% 16V
2140	4822 122 32927	220nF +80%-20%
2141	4822 122 31385	22pF 50V
2142	5322 122 32452	47pF 5% 50V
2143	5322 122 32452	47pF 5% 50V
2144	4822 124 40181	220µF 20% 10V
2146	4822 122 32096	4.7pF 10% 50V
2147	4822 122 31727	470pF 5% 63V
2148	4822 122 31727	470pF 5% 63V
2149	5322 122 33537	1.2pF 5% 63V
2150	4822 121 42408	220nF 5% 63V
2151	4822 125 60101	TRIMMER 3-11pF 100V
2152	4822 121 51288	100pF 630V
2153	4822 125 60102	TRIMMER 3.2-30pF
2155	4822 124 41631	1.5µF 50V
2156	5322 126 10223	4.7nF 10% 63V
2157	5322 126 10223	4.7nF 10% 63V
2158	4822 124 40196	220µF 20% 16V
2159	5322 122 32654	22nF 10% 63V
2160	4822 122 31727	470pF 5% 63V
2161	4822 124 40246	4.7µF 20% 63V
2162	4822 122 32142	270pF 5% 63V
2164	4822 126 10333	560pF 10% 63V
2165	4822 124 41398	1µF 20% 63V
2166	5322 122 32654	22nF 10% 63V
2167	4822 124 41973	100µF 20% 16V
2168	5322 121 50999	470pF 1% 400V
2169	5322 122 32654	22nF 10% 63V
2170	4822 124 40239	0.47µF 20% 63V
2171	4822 122 31727	470pF 5% 63V
2172	4822 124 41987	0.22µF 63V
2173	4822 124 40246	4.7µF 20% 63V
2174	4822 122 33128	15nF 10% 63V
2175	4822 122 33128	15nF 10% 63V
2176	4822 124 41398	1µF 20% 63V
2177	4822 124 41398	1µF 20% 63V
2178	4822 126 10333	560pF 10% 63V
2179	4822 122 31727	470pF 5% 63V
2180	5322 122 32965	18pF 5%NPO 50V
2181	5322 122 33869	15pF 5% 63V

2182	4822 124 41398	1µF 20% 63V
2183	4822 122 32927	220nF +80%-20%
2184	4822 122 31727	470pF 5% 63V
2185	4822 122 31974	820pF 10% 63V
2186	4822 122 31727	470pF 5% 63V
2187	4822 122 31727	470pF 5% 63V
2188	4822 122 31727	470pF 5% 63V
2189	4822 122 31727	470pF 5% 63V
2191	5322 126 10185	3.9pF 5% 50V
2192	4822 122 32927	220nF +80%-20%
2193	4822 122 31974	820pF 10% 63V
2194	4822 122 33515	82pF 5% 63V
2195	4822 122 32927	220nF +80%-20%
2198	5322 122 33869	15pF 5% 63V
2199	5322 122 33538	150pF 5% 63V
2200	5322 122 31647	1nF 10% 63V
2300	4822 121 42007	100nF 10% 100V
2301	5322 121 42386	100nF 5% 63V
2302	5322 121 42386	100nF 5% 63V
2306	4822 124 41995	6800µF 25V
2309	4822 124 41525	100µF 20% 25V
2310	4822 124 40433 ⚠	47µF 20% 25V
2311	4822 124 41525 ⚠	100µF 20% 25V
2312	4822 122 10158	1nF 10% 50V
2313	4822 122 10158	1nF 10% 50V
2314	5322 124 41431	22µF 20% 35V
2317	4822 124 40242	1µF 20% 63V
2318	4822 124 40242	1µF 20% 63V
2319	4822 122 10174	1.5nF 10% 50V
2320	4822 122 10174	1.5nF 10% 50V
2321	5322 122 32052	680pF 10% 100V
2322	5322 122 32052	680pF 10% 100V
2323	4822 124 40177	47µF 20% 10V
2324	4822 124 40177	47µF 20% 10V
2325	5322 124 41431	22µF 20% 35V
2326	5322 124 41431	22µF 20% 35V
2327	4822 126 11006	10nF 20% 50V
2328	4822 126 11006	10nF 20% 50V
2329	4822 124 41506	47µF 20% 16V
2330	4822 124 41506	47µF 20% 16V
2331	4822 121 42408	220nF 5% 63V
2332	4822 121 42408	220nF 5% 63V
2333	4822 124 41506	47µF 20% 16V
2334	4822 124 41506	47µF 20% 16V
2335	4822 121 42408	220nF 5% 63V
2336	4822 121 42408	220nF 5% 63V
2337	4822 124 41506	47µF 20% 16V
2338	4822 124 41506	47µF 20% 16V
2339	4822 124 41525	100µF 20% 25V
2340	4822 124 40433	47µF 20% 25V
2341	5322 124 21189	100µF 20% 40V
2342	5322 121 42386	100nF 5% 63V

401	4822 691 20741
402	4822 426 51536
403	4822 450 61524
404	4822 462 41909
408	4822 450 61879
409	4822 450 61881
411	4822 443 63037
412	4822 443 63624
413	4822 450 61525
414	4822 443 63623
415	4822 411 61866
416	4822 256 91603
417	4822 410 61927
418	4822 411 20353
419	4822 413 51406
420	4822 410 60586
421	4822 410 61928
422	4822 529 10257
423	4822 404 21073
424	4822 492 70732
425	4822 466 92641
427	4822 413 51408
428	4822 462 40683
429	4822 492 51374
431	4822 413 41715
432	4822 410 61929
433	4822 410 61925
434	4822 492 63927
441	4822 466 70666
442	4822 256 91477
443	4822 410 61926
444	4822 535 93055
446	4822 401 11336
447	4822 492 70426
448	4822 403 30772
449	4822 532 52321
451	4822 462 41535
452	4822 255 40128
453	5322 255 40397
IFU	4822 736 21407

Note : Only the mentioned parts are normal service parts.

MISCELLANEOUS

1100	4822 267 31128	FM AERIAL
1254	4822 267 31107	SPEAKER SOCKET
1255	4822 267 31051	REMOTE OUT SOCKET
1256	4822 267 30968	HEADPHONE SOCKET
1259	4822 276 11567 ⚠	POWER SWITCH
1261	4822 264 30175	PHONO OUT SOCKET
1302	4822 071 55002 ⚠	FUSE 5A
1305	4822 071 51252 ⚠	FUSE 1.25A
1400	4822 130 90954	FTD-6F11PHZK-CU
1401	4822 276 12465	TACT SWITCH
1402	4822 276 12465	TACT SWITCH
1403	4822 276 12465	TACT SWITCH
1404	4822 276 12465	TACT SWITCH
1405	4822 276 12465	TACT SWITCH
1406	4822 276 12465	TACT SWITCH
1407	4822 276 12465	TACT SWITCH
1408	4822 276 12465	TACT SWITCH
1409	4822 276 12465	TACT SWITCH
1410	4822 276 12465	TACT SWITCH
1411	4822 276 12465	TACT SWITCH
1412	4822 276 12465	TACT SWITCH
1415	4822 134 40965	LAMP 12V 0.15A
1801	4822 276 12639	PUSH BUTTON
1802	4822 276 12639	PUSH BUTTON
	4822 218 10448	REMOTE CONTROL
	4822 321 10249	SPEAKER BOX
	4822 445 10313 ⚠	AC MAINS

⊣⊢

2100	4822 122 31555	120pF 5%
2103	4822 125 60102	TRIMMER 3.2-30pF
2104	5322 122 32658	22pF 5% 50V
2105	5322 122 32531	100pF 5% 50V
2106	4822 122 31727	470pF 5% 63V
2107	4822 122 31727	470pF 5% 63V
2108	4822 122 31727	470pF 5% 63V
2109	4822 125 60102	TRIMMER 3.2-30pF
2111	4822 125 60102	TRIMMER 3.2-30pF
2112	4822 122 31727	470pF 5% 63V
2113	4822 122 31727	470pF 5% 63V
2114	4822 122 31974	820pF 10% 63V
2115	5322 122 33869	15pF 5% 63V
2116	5322 122 32658	22pF 5% 50V
2117	4822 122 32139	12pF 5% 63V
2118	4822 122 31971	10pF 10% 50V
2119	4822 124 40181	220µF 20% 10V
2120	5322 122 32654	22nF 10% 63V
2123	4822 122 31555	120pF 5%
2124	4822 122 31727	470pF 5% 63V
2125	5322 122 33538	150pF 5% 63V
2126	5322 122 33538	150pF 5% 63V

2579	4822 124 40248	10µF 20% 63V
2580	4822 126 10777	100pF 50V
2580	4822 124 40248	10µF 20% 63V
2581	4822 126 10791	12pF 5%
2581	4822 122 10181	47pF 5% 50V
2582	4822 126 10791	12pF 5%
2582	4822 122 10181	47pF 5% 50V
2583	4822 122 10181	47pF 5% 50V
2583	4822 121 43179	18nF 5% 250V
2584	4822 122 10181	47pF 5% 50V
2584	4822 121 43179	18nF 5% 250V
2585	4822 122 31435	470pF 10% 50V
2585	4822 122 10182	100pF 5% 50V
2586	4822 122 31435	470pF 10% 50V
2586	4822 122 10182	100pF 5% 50V
2587	4822 124 23175	4.7µF 20% 63V
2588	4822 124 23175	4.7µF 20% 63V
2589	4822 124 40246	4.7µF 20% 63V
2589	4822 126 12145	47nF 10% 25V
2590	4822 124 40246	4.7µF 20% 63V
2590	4822 124 41973	100µF 20% 16V
2595	4822 126 10781	470pF 50V
2597	4822 126 12109	100pF 5% 50V
2598	4822 126 12109	100pF 5% 50V
2599	4822 124 40196	220µF 20% 16V
2601	4822 122 31072	47pF 2% 100V
2601	4822 124 40246	4.7µF 20% 63V
2602	4822 122 10181	47pF 5% 50V
2602	4822 124 40246	4.7µF 20% 63V
2603	4822 122 10181	47pF 5% 50V
2603	4822 122 31835	1.8nF 10% 50V
2604	4822 122 10181	47pF 5% 50V
2604	4822 122 31835	1.8nF 10% 50V
2605	4822 122 10181	47pF 5% 50V
2605	4822 121 51093	6.8nF 5% 250V
2606	4822 122 10181	47pF 5% 50V
2606	4822 121 51093	6.8nF 5% 250V
2607	4822 122 10181	47pF 5% 50V
2607	4822 122 10225	82pF 5% 50V
2608	4822 122 10181	47pF 5% 50V
2608	4822 122 10225	82pF 5% 50V
2609	4822 122 10181	47pF 5% 50V
2609	4822 122 10181	47pF 5% 50V
2610	4822 122 10181	47pF 5% 50V
2610	4822 122 10181	47pF 5% 50V
2611	4822 122 33534	1.2nF 10% 50V
2611	4822 122 10171	180pF 10% 50V
2612	4822 122 33534	1.2nF 10% 50V
2612	4822 122 10171	180pF 10% 50V
2613	4822 122 10166	22nF 30% 16V
2614	4822 122 10166	22nF 30% 16V
2615	4822 122 10166	22nF 30% 16V
2616	4822 122 10166	22nF 30% 16V

2701	4822 126 10782	680pF 50V
2702	4822 126 10782	680pF 50V
2705	4822 122 32535	680pF 10% 63V
2706	4822 122 32535	680pF 10% 63V
2707	4822 126 10778	220pF 50V
2708	4822 126 10778	220pF 50V
2709	4822 124 40246	4.7µF 20% 63V
2710	4822 124 40246	4.7µF 20% 63V
2711	4822 122 31727	470pF 5% 63V
2712	4822 124 80145	150µF 20% 16V
2713	4822 124 40433	47µF 20% 25V
2714	4822 121 50543	5.6nF 1% 63V
2716	4822 122 31435	470pF 10% 50V
2717	4822 122 31435	470pF 10% 50V
2719	4822 126 11005	4.7nF 20% 50V
2721	4822 126 10777	100pF 50V
2722	4822 126 10777	100pF 50V
2723	4822 124 40246	4.7µF 20% 63V
2724	4822 124 40246	4.7µF 20% 63V
2725	5322 121 42386	100nF 5% 63V
2726	5322 121 42386	100nF 5% 63V
2727	4822 121 51256	39nF 10% 50V
2728	4822 121 51256	39nF 10% 50V
2729	4822 122 31808	150pF 10% 50V
2730	4822 122 31808	150pF 10% 50V
2731	4822 124 41584	100µF 20% 10V
2732	4822 124 41584	100µF 20% 10V
2733	4822 126 10781	470pF 50V
2734	4822 124 41997	470µF 10V
2736	4822 124 40272	33µF 20% 16V
2737	5322 124 41431	22µF 20% 35V
2741	4822 122 10174	1.5nF 10% 50V
2742	4822 122 10174	1.5nF 10% 50V
2743	4822 122 10183	100pF 5% 50V
2744	4822 122 10183	100pF 5% 50V
2745	4822 122 10183	100pF 5% 50V
2746	4822 122 10183	100pF 5% 50V
2748	4822 126 10781	470pF 50V
2749	4822 126 10781	470pF 50V
2750	4822 126 10781	470pF 50V
2751	4822 126 10781	470pF 50V
2765	4822 122 31784	4.7nF 10% 50V

3101	4822 051 20473	47k 5% 0.1W
3102	4822 051 20333	33k 5% 0.1W
3103	4822 051 20472	4k7 5% 0.1W
3104	4822 051 20102	1k 5% 0.1W
3105	4822 050 23901	390Ω 1% 0.6W
3106	4822 116 52224	470Ω 5% 0.5W
3107	4822 050 24702	4k7 1% 0.6W

2343	4822 124 41992	220µF 35V
2344	4822 124 41992	220µF 35V
2345	5322 124 41431	22µF 20% 35V
2346	5322 124 41431	22µF 20% 35V
2347	4822 124 40244	2.2µF 20% 63V
2348	4822 124 40244	2.2µF 20% 63V
2349	4822 126 10003	33nF 30% 50V
2350	4822 126 12145	47nF 10% 25V
2351	4822 126 12145	47nF 10% 25V
2352	5322 121 42386	100nF 5% 63V
2353	4822 126 11316	47nF 50V
2354	4822 126 11316	47nF 50V
2355	4822 126 12145	47nF 10% 25V
2356	4822 126 12145	47nF 10% 25V
2357	4822 126 11313	22nF 25V
2401	4822 121 42408	220nF 5% 63V
2402	4822 124 40248	10µF 20% 63V
2403	4822 124 41973	100µF 20% 16V
2411	4822 121 42408	220nF 5% 63V
2412	4822 122 10177	10nF 20% 25V
2413	4822 124 40244	2.2µF 20% 63V
2414	4822 122 10166	22nF 30% 16V
2415	4822 122 10166	22nF 30% 16V
2420	4822 122 10166	22nF 30% 16V
2421	4822 122 10166	22nF 30% 16V
2422	4822 122 10177	10nF 20% 25V
2423	4822 122 10177	10nF 20% 25V
2424	4822 124 40196	220µF 20% 16V
2425	4822 124 41973	100µF 20% 16V
2426	4822 124 23175	4.7µF 20% 63V
2505	5322 121 42386	100nF 5% 63V
2506	5322 121 42386	100nF 5% 63V
2507	4822 122 10166	22nF 30% 16V
2508	4822 122 10166	22nF 30% 16V
2509	4822 121 43945	8.2nF 20%
2510	4822 121 43945	8.2nF 20%
2511	4822 122 31835	1.8nF 10% 50V
2512	4822 122 31835	1.8nF 10% 50V
2513	5322 121 42386	100nF 5% 63V
2514	5322 121 42386	100nF 5% 63V
2515	4822 122 10166	22nF 30% 16V
2516	4822 122 10166	22nF 30% 16V
2517	4822 121 43945	8.2nF 20%
2518	4822 121 43945	8.2nF 20%
2519	4822 122 31835	1.8nF 10% 50V
2520	4822 122 31835	1.8nF 10% 50V
2521	4822 122 10173	820pF 10% 50V
2522	4822 122 10173	820pF 10% 50V
2523	4822 124 23175	4.7µF 20% 63V
2524	4822 124 23175	4.7µF 20% 63V
2525	4822 122 33997	56pF 5%NPO
2526	4822 122 33997	56pF 5%NPO
2529	5322 121 42386	100nF 5% 63V

2530	5322 121 42386	100nF 5% 63V
2531	5322 124 41431	22µF 20% 35V
2532	4822 126 11313	22nF 25V
2533	4822 122 10166	22nF 30% 16V
2535	5322 122 32052	680pF 10% 100V
2536	5322 122 32052	680pF 10% 100V
2540	4822 124 40248	10µF 20% 63V
2549	5322 124 41431	22µF 20% 35V
2551	4822 121 42687	3.3nF 10% 63V
2552	4822 121 42687	3.3nF 10% 63V
2553	4822 124 40242	1µF 20% 63V
2553	4822 122 31435	470pF 10% 50V
2554	4822 124 40242	1µF 20% 63V
2554	4822 122 31435	470pF 10% 50V
2555	4822 122 31072	47pF 2% 100V
2556	4822 122 31072	47pF 2% 100V
2557	4822 124 42243	0.47µF 20% 63V
2557	4822 122 31772	47pF 5% 50V
2558	4822 122 31072	47pF 2% 100V
2558	4822 124 42243	0.47µF 20% 63V
2559	4822 124 42243	0.47µF 20% 63V
2560	4822 124 42243	0.47µF 20% 63V
2561	4822 124 40246	4.7µF 20% 63V
2561	4822 124 42243	0.47µF 20% 63V
2562	4822 124 40246	4.7µF 20% 63V
2562	4822 124 42243	0.47µF 20% 63V
2563	5322 121 42498	680nF 5% 63V
2563	4822 124 42243	0.47µF 20% 63V
2564	5322 121 42498	680nF 5% 63V
2564	4822 124 42243	0.47µF 20% 63V
2565	4822 124 42243	0.47µF 20% 63V
2566	4822 124 41525	100µF 20% 25V
2566	4822 124 42243	0.47µF 20% 63V
2567	4822 122 10173	820pF 10% 50V
2567	4822 126 10781	470pF 50V
2568	4822 122 10173	820pF 10% 50V
2569	4822 126 10781	470pF 50V
2569	4822 122 10177	10nF 20% 25V
2570	4822 126 11167	22nF 20% 50V
2570	4822 122 10177	10nF 20% 25V
2571	4822 124 40248	10µF 20% 63V
2571	4822 126 11309	2.7nF 10%Y5F 50V
2572	4822 126 11309	2.7nF 10%Y5F 50V
2573	4822 124 42218	470µF 20% 10V
2574	4822 126 11316	47nF 50V
2575	4822 124 40246	4.7µF 20% 63V
2575	4822 124 40433	47µF 20% 25V
2576	4822 124 40246	4.7µF 20% 63V
2577	4822 126 10777	100pF 50V
2577	4822 124 40248	10µF 20% 63V
2578	4822 124 40248	10µF 20% 63V
2578	4822 126 10777	100pF 50V
2579	4822 126 10777	100pF 50V

3436	4822 050 21002	1k 1% 0.6W
3437	4822 050 21002	1k 1% 0.6W
3438	4822 050 21004	100k 1% 0.6W
3439	4822 050 21002	1k 1% 0.6W
3440	4822 050 21003	10k 1% 0.6W
3441	4822 050 24702	4k7 1% 0.6W
3442	4822 050 21002	1k 1% 0.6W
3444	4822 050 21003	10k 1% 0.6W
3445	4822 050 24703	47k 1% 0.6W
3446	4822 050 21003	10k 1% 0.6W
3447	4822 050 21003	10k 1% 0.6W
3448	4822 050 23301	330Ω 1% 0.6W
3449	4822 050 22701	270Ω 1% 0.6W
3450	4822 050 22701	270Ω 1% 0.6W
3451	4822 050 21002	1k 1% 0.6W
3452	4822 050 21002	1k 1% 0.6W
3453	4822 050 24702	4k7 1% 0.6W
3454	4822 050 21002	1k 1% 0.6W
3455	4822 050 24702	4k7 1% 0.6W
3456	4822 050 21002	1k 1% 0.6W
3457	4822 050 26801	680Ω 1% 0.6W
3458	4822 050 28202	8k2 1% 0.6W
3459	4822 050 23301	330Ω 1% 0.6W
3460	4822 050 28209	82Ω 1% 0.6W
3461	4822 050 24702	4k7 1% 0.6W
3462	4822 050 22701	270Ω 1% 0.6W
3463	4822 050 22701	270Ω 1% 0.6W
3481	4822 050 21004	100k 1% 0.6W
3482	4822 050 21803	18k 1% 0.6W
3483	4822 050 24703	47k 1% 0.6W
3484	4822 050 24703	47k 1% 0.6W
3485	4822 050 21002	1k 1% 0.6W
3486	4822 050 21002	1k 1% 0.6W
3500	4822 102 10414	20kX2 20% 0.05W
3501	4822 050 22702	2k7 1% 0.6W
3502	4822 050 22702	2k7 1% 0.6W
3503	4822 050 24702	4k7 1% 0.6W
3504	4822 050 24702	4k7 1% 0.6W
3505	4822 101 21102	2X50k 20%
3506	4822 050 22203	22k 1% 0.6W
3507	4822 101 21102	2X50k 20%
3508	4822 050 22203	22k 1% 0.6W
3509	4822 101 21102	2X50k 20%
3511	4822 101 21102	2X50k 20%
3513	4822 101 21102	2X50k 20%
3517	4822 050 21502	1k5 1% 0.6W
3518	4822 050 21502	1k5 1% 0.6W
3519	4822 050 21503	15k 1% 0.6W
3520	4822 050 21503	15k 1% 0.6W
3521	4822 050 21803	18k 1% 0.6W
3522	4822 050 21803	18k 1% 0.6W
3523	4822 050 21803	18k 1% 0.6W
3524	4822 050 21803	18k 1% 0.6W

3525	4822 050 22203	22k 1% 0.6W
3526	4822 050 22203	22k 1% 0.6W
3527	4822 050 21503	15k 1% 0.6W
3528	4822 050 21503	15k 1% 0.6W
3529	4822 050 21803	18k 1% 0.6W
3530	4822 050 21803	18k 1% 0.6W
3531	4822 050 21803	18k 1% 0.6W
3532	4822 050 21803	18k 1% 0.6W
3533	4822 050 22203	22k 1% 0.6W
3534	4822 050 22203	22k 1% 0.6W
3535	4822 050 28203	82k 1% 0.6W
3536	4822 050 28203	82k 1% 0.6W
3537	4822 050 25604	560k 1% 0.6W
3538	4822 050 25604	560k 1% 0.6W
3539	4822 050 21502	1k5 1% 0.6W
3540	4822 050 21502	1k5 1% 0.6W
3541	4822 116 52264	27k 5% 0.5W
3542	4822 050 21801	180Ω 1% 0.6W
3543	4822 050 22202	2k2 1% 0.6W
3544	4822 050 22202	2k2 1% 0.6W
3545	4822 101 21103	20k 20% 0.1W
3547	4822 050 21202	1k2 1% 0.6W
3548	4822 050 21202	1k2 1% 0.6W
3549	4822 050 28201	820Ω 1% 0.6W
3550	4822 050 28201	820Ω 1% 0.6W
3551	4822 050 21203	12k 1% 0.6W
3551	4822 050 21204	120k 1% 0.6W
3552	4822 050 21203	12k 1% 0.6W
3552	4822 050 21204	120k 1% 0.6W
3553	4822 050 23302	3k3 1% 0.6W
3553	4822 050 25603	56k 1% 0.6W
3554	4822 050 25603	56k 1% 0.6W
3554	4822 050 23302	3k3 1% 0.6W
3555	4822 050 25601	560Ω 1% 0.6W
3555	4822 050 15602	5k6 1% 0.4W
3556	4822 050 25601	560Ω 1% 0.6W
3556	4822 050 15602	5k6 1% 0.4W
3557	4822 050 21002	1k 1% 0.6W
3557	4822 050 28203	82k 1% 0.6W
3558	4822 050 28203	82k 1% 0.6W
3558	4822 050 21002	1k 1% 0.6W
3559	4822 050 26803	68k 1% 0.6W
3559	4822 050 21002	1k 1% 0.6W
3560	4822 050 21002	1k 1% 0.6W
3560	4822 050 26803	68k 1% 0.6W
3561	4822 050 23303	33k 1% 0.6W
3561	4822 050 21803	18k 1% 0.6W
3562	4822 050 21803	18k 1% 0.6W
3562	4822 050 23303	33k 1% 0.6W
3563	4822 050 26802	6k8 1% 0.6W
3564	4822 050 26802	6k8 1% 0.6W
3565	4822 050 21503	15k 1% 0.6W
3565	4822 050 21003	10k 1% 0.6W

3108	4822 051 10122		1k2 2% 0.25W
3109	4822 051 10101		100Ω 5% 0.125W
3111	4822 050 24703		47k 1% 0.6W
3112	4822 051 20008		0Ω 5% 0.1W
3113	4822 051 20689		68Ω 5% 0.1W
3114	4822 100 20166		10k 30%LIN 0.1W
3115	4822 051 20479		47Ω 5% 0.1W
3116	4822 050 21001		100Ω 1% 0.6W
3117	4822 051 20103		10k 5% 0.1W
3118	4822 051 20271		270Ω 5% 0.1W
3120	4822 050 23903		39k 1% 0.6W
3121	4822 051 20104		100k 5% 0.1W
3122	4822 051 20105		1M 5% 0.1W
3124	4822 051 20008		0Ω 5% 0.1W
3125	4822 050 24702		4k7 1% 0.6W
3126	4822 050 22202		2k2 1% 0.6W
3127	4822 051 20472		4k7 5% 0.1W
3128	4822 050 24702		4k7 1% 0.6W
3129	4822 051 20104		100k 5% 0.1W
3130	4822 051 20104		100k 5% 0.1W
3131	4822 050 23301		330Ω 1% 0.6W
3132	4822 050 26801		680Ω 1% 0.6W
3133	4822 051 20223		22k 5% 0.1W
3134	4822 050 24702		4k7 1% 0.6W
3135	4822 050 22201		220Ω 1% 0.6W
3136	4822 051 20153		15k 5% 0.1W
3137	4822 051 20562		5k6 5% 0.1W
3138	4822 051 20472		4k7 5% 0.1W
3139	4822 050 24702		4k7 1% 0.6W
3140	4822 051 20102		1k 5% 0.1W
3141	4822 050 21003		10k 1% 0.6W
3142	4822 050 21001		100Ω 1% 0.6W
3143	4822 050 22203		22k 1% 0.6W
3144	4822 051 20183		18k 5% 0.1W
3145	4822 100 20166		10k 30%LIN 0.1W
3146	4822 051 20472	⚠	4k7 5% 0.1W
3147	4822 050 21801		180Ω 1% 0.6W
3148	4822 050 21003		10k 1% 0.6W
3149	4822 050 21002		1k 1% 0.6W
3150	4822 050 21002		1k 1% 0.6W
3151	4822 050 21002		1k 1% 0.6W
3153	4822 050 21002		1k 1% 0.6W
3156	4822 051 20223		22k 5% 0.1W
3157	4822 051 20008		0Ω 5% 0.1W
3158	4822 051 20104		100k 5% 0.1W
3160	4822 051 20008		0Ω 5% 0.1W
3161	4822 051 20473		47k 5% 0.1W
3162	4822 051 20479		47Ω 5% 0.1W
3163	4822 051 20562		5k6 5% 0.1W
3164	4822 051 20008		0Ω 5% 0.1W
3170	4822 051 20008		0Ω 5% 0.1W
3173	4822 050 21002		1k 1% 0.6W
3300	4822 050 21501	⚠	150Ω 1% 0.6W

3301	4822 050 21501	⚠	150Ω 1% 0.6W
3302	4822 050 26801		680Ω 1% 0.6W
3303	4822 050 28201		820Ω 1% 0.6W
3306	4822 050 24702		4k7 1% 0.6W
3307	4822 050 24702		4k7 1% 0.6W
3308	4822 050 24702		4k7 1% 0.6W
3309	4822 050 24702		4k7 1% 0.6W
3310	4822 050 24702		4k7 1% 0.6W
3311	4822 050 22202		2k2 1% 0.6W
3312	4822 050 22202		2k2 1% 0.6W
3313	4822 050 21803		18k 1% 0.6W
3314	4822 050 21803		18k 1% 0.6W
3315	4822 050 21801		180Ω 1% 0.6W
3316	4822 050 21801		180Ω 1% 0.6W
3317	4822 116 80335	⚠	NFR25 47Ω
3318	4822 116 80335	⚠	NFR25 47Ω
3321	4822 113 80504	⚠	10Ω 5W
3322	4822 052 10398	⚠	3Ω9 5% 0.33W
3323	4822 052 10398	⚠	3Ω9 5% 0.33W
3324	4822 052 10398	⚠	3Ω9 5% 0.33W
3325	4822 052 10398	⚠	3Ω9 5% 0.33W
3326	4822 051 10101		100Ω 5% 0.125W
3327	4822 116 52263		2k7 5% 0.5W
3328	4822 050 14709		47Ω 1% 0.4W
3329	4822 050 21801		180Ω 1% 0.6W
3338	4822 050 21003	⚠	10k 1% 0.6W
3339	4822 050 21003	⚠	10k 1% 0.6W
3340	4822 050 22203	⚠	22k 1% 0.6W
3341	4822 116 80562		10Ω 5%
3343	4822 116 80562		10Ω 5%
3344	4822 116 80562		10Ω 5%
3401	4822 052 10479	⚠	47Ω 5% 0.33W
3402	4822 050 25602		5k6 1% 0.6W
3404	4822 052 10129	⚠	12Ω 5% 0.33W
3411	4822 050 21003		10k 1% 0.6W
3412	4822 050 21004		100k 1% 0.6W
3414	4822 050 21004		100k 1% 0.6W
3416	4822 050 21003		10k 1% 0.6W
3417	4822 050 24702		4k7 1% 0.6W
3418	4822 050 22202		2k2 1% 0.6W
3422	4822 050 24703		47k 1% 0.6W
3423	4822 050 24703		47k 1% 0.6W
3424	4822 050 24703		47k 1% 0.6W
3425	4822 050 21803		18k 1% 0.6W
3426	4822 050 24702		4k7 1% 0.6W
3427	4822 050 21002		1k 1% 0.6W
3428	4822 050 21002		1k 1% 0.6W
3429	4822 050 21004		100k 1% 0.6W
3430	4822 050 24702		4k7 1% 0.6W
3431	4822 050 24702		4k7 1% 0.6W
3432	4822 050 24702		4k7 1% 0.6W
3433	4822 050 24702		4k7 1% 0.6W
3434	4822 050 24703		47k 1% 0.6W

3731	4822 050 26802	6k8 1% 0.6W
3732	4822 050 22702	2k7 1% 0.6W
3736	4822 050 21002	1k 1% 0.6W
3737	4822 050 22203	22k 1% 0.6W
3738	4822 050 21003	10k 1% 0.6W
3739	4822 050 21003	10k 1% 0.6W
3742	4822 050 21003	10k 1% 0.6W
3743	4822 050 21003	10k 1% 0.6W
3744	4822 050 21003	10k 1% 0.6W
3745	4822 050 24703	47k 1% 0.6W
3747	4822 116 52234	100k 5% 0.5W
3748	4822 116 52234	100k 5% 0.5W
3754	4822 050 21002	1k 1% 0.6W
3756	4822 050 21002	1k 1% 0.6W
3757	4822 050 21502	1k5 1% 0.6W
3758	4822 050 21002	1k 1% 0.6W
3759	4822 050 21002	1k 1% 0.6W
3760	4822 050 21003	10k 1% 0.6W
3761	4822 050 24703	47k 1% 0.6W
3763	4822 050 23302	3k3 1% 0.6W
3765	4822 050 23302	3k3 1% 0.6W
3766	4822 050 21203	12k 1% 0.6W
3768	4822 050 21203	12k 1% 0.6W
3774	4822 100 20166	10k 30%LIN 0.1W
3776	4822 100 20166	10k 30%LIN 0.1W
3785	4822 050 24703	47k 1% 0.6W
3786	4822 050 21003	10k 1% 0.6W
3787	4822 050 21002	1k 1% 0.6W
3795	4822 050 21803	18k 1% 0.6W
3796	4822 050 21803	18k 1% 0.6W
3797	4822 050 21003	10k 1% 0.6W
3798	4822 050 21003	10k 1% 0.6W
3804	4822 050 21202	1k2 1% 0.6W

5001	4822 146 30963 ⚠	TRANSFORMER MAINS
5002	4822 157 40202	TOROID
5003	4822 157 40202	TOROID
5012	4822 157 53447	BREAD INDUCTOR
5101	4822 156 30947	RF COIL
5102	4822 156 30947	RF COIL
5103	4822 156 30947	RF COIL
5104	4822 157 53199	OSC. COIL
5105	4822 156 10459	OSC. COIL
5106	4822 157 53192	0.22µH ±20%
5107	4822 242 72096	CER. FILTER
5108	4822 158 60511	AM-IF
5109	4822 242 71878	SFZ450A4
5110	4822 526 10466	FERROCEPTOR
5111	4822 157 60373	FM IF COIL
5112	4822 303 50034	COIL 7.2MHz
5113	4822 157 53447	BREAD INDUCTOR
5114	4822 158 60509	ADJUSTABLE COIL
5115	4822 157 53447	BREAD INDUCTOR
5251	4822 157 53447	BREAD INDUCTOR
5252	4822 157 53447	BREAD INDUCTOR
5401	4822 242 73577	CST4.50MGW
5403	4822 157 53447	BREAD INDUCTOR
5601	4822 156 20811	COIL 36µH 5%
5602	4822 156 20811	COIL 36µH 5%
5603	4822 242 73768	FILTER
5604	4822 242 73768	FILTER
5605	4822 156 20811	COIL 36µH 5%
5606	4822 156 20811	COIL 36µH 5%
5701	4822 156 20946	COIL 100kHz

6001	4822 130 82027	TLR220
6101	4822 130 81643	BB804
6102	4822 130 81643	BB804
6104	4822 130 32227	OF642
6105	4822 130 32227	OF642
6107	4822 130 34174	BZX79-C4V7
6110	4822 130 81643	BB804
6111	4822 130 81643	BB804
6300	4822 130 82289 ⚠	KBU6DL-7002
6305	4822 130 34195	BZX79-C13
6306	4822 130 30621	1N4148
6307	4822 130 30621	1N4148
6309	4822 130 30621	1N4148
6310	4822 130 30621	1N4148
6311	4822 130 34268	BZX79-C16
6312	4822 130 30621	1N4148
6313	4822 130 30621	1N4148
6314	4822 130 34278	BZX79-C6V8
6315	5322 130 34563	BZX79-C2V7
6316	4822 130 30621	1N4148
6317	4822 130 30621	1N4148
6401	4822 130 34173	BZX79-C5V6
6411	4822 130 30621	1N4148
6412	4822 130 30621	1N4148
6413	4822 130 30621	1N4148
6415	4822 130 30621	1N4148
6417	4822 130 30621	1N4148
6420	4822 130 81254	GP1U520X
6436	4822 130 34173	BZX79-C5V6
6437	4822 130 31274	TLR124
6438	4822 130 34197	BZX79-C12
6551	4822 130 30621	1N4148
6552	4822 130 30621	1N4148
6553	4822 130 30621	1N4148
6554	4822 130 30621	1N4148
6555	4822 130 30621	1N4148

3566	4822 050 21503	15k 1% 0.6W
3566	4822 116 52244	15k 5% 0.5W
3567	4822 050 24303	43k 1% 0.6W
3567	4822 050 24702	4k7 1% 0.6W
3568	4822 052 10229	22Ω 5% 0.33W
3568	4822 050 24702	4k7 1% 0.6W
3571	4822 050 21001	100Ω 1% 0.6W
3571	4822 050 21003	10k 1% 0.6W
3572	4822 050 21001	100Ω 1% 0.6W
3572	4822 050 21003	10k 1% 0.6W
3573	4822 050 25601	560Ω 1% 0.6W
3573	4822 050 21002	1k 1% 0.6W
3574	4822 050 21002	1k 1% 0.6W
3574	4822 050 25601	560Ω 1% 0.6W
3575	4822 050 21003	10k 1% 0.6W
3575	4822 050 25601	560Ω 1% 0.6W
3576	4822 050 21003	10k 1% 0.6W
3576	4822 050 25601	560Ω 1% 0.6W
3577	4822 116 52234	100k 5% 0.5W
3577	4822 050 23304	330k 1% 0.6W
3578	4822 050 23304	330k 1% 0.6W
3578	4822 116 52234	100k 5% 0.5W
3579	4822 050 22703	27k 1% 0.6W
3579	4822 050 24704	470k 1% 0.6W
3580	4822 050 24704	470k 1% 0.6W
3580	4822 050 22703	27k 1% 0.6W
3581	4822 050 25603	56k 1% 0.6W
3581	4822 050 21504	150k 1% 0.6W
3582	4822 050 21504	150k 1% 0.6W
3582	4822 050 25603	56k 1% 0.6W
3583	4822 050 28202	8k2 1% 0.6W
3583	4822 050 28203	82k 1% 0.6W
3584	4822 050 28203	82k 1% 0.6W
3584	4822 050 28202	8k2 1% 0.6W
3585	4822 050 24703	47k 1% 0.6W
3586	4822 050 24703	47k 1% 0.6W
3587	4822 050 13303	33k 1% 0.4W
3587	4822 050 24703	47k 1% 0.6W
3588	4822 050 13303	33k 1% 0.4W
3588	4822 050 24703	47k 1% 0.6W
3589	4822 050 24703	47k 1% 0.6W
3590	4822 050 24703	47k 1% 0.6W
3591	4822 050 24703	47k 1% 0.6W
3592	4822 050 24703	47k 1% 0.6W
3593	4822 052 10229	22Ω 5% 0.33W
3595	4822 050 21001	100Ω 1% 0.6W
3596	4822 050 21001	100Ω 1% 0.6W
3597	4822 050 28202	8k2 1% 0.6W
3598	4822 050 28202	8k2 1% 0.6W
3599	4822 050 22702	2k7 1% 0.6W
3600	4822 050 22702	2k7 1% 0.6W
3601	4822 050 15602	5k6 1% 0.4W
3601	4822 050 23301	330Ω 1% 0.6W

3602	4822 050 15602	5k6 1% 0.4W
3602	4822 050 23301	330Ω 1% 0.6W
3603	4822 050 26802	6k8 1% 0.6W
3603	4822 050 21501	150Ω 1% 0.6W
3604	4822 050 26802	6k8 1% 0.6W
3604	4822 050 21501	150Ω 1% 0.6W
3605	4822 116 52244	15k 5% 0.5W
3606	4822 116 52244	15k 5% 0.5W
3606	4822 052 10229 ⚠	NFR25 22Ω 5%
3607	4822 050 21003	10k 1% 0.6W
3607	4822 050 22202	2k2 1% 0.6W
3608	4822 050 21003	10k 1% 0.6W
3608	4822 050 22202	2k2 1% 0.6W
3609	4822 050 21003	10k 1% 0.6W
3609	4822 050 21203	12k 1% 0.6W
3610	4822 050 24703	47k 1% 0.6W
3610	4822 050 21203	12k 1% 0.6W
3611	4822 050 21003	10k 1% 0.6W
3612	4822 050 21003	10k 1% 0.6W
3613	4822 050 21003	10k 1% 0.6W
3614	4822 050 21003	10k 1% 0.6W
3615	4822 051 10479	47Ω 2% 0.25W
3615	4822 050 21801	180Ω 1% 0.6W
3616	4822 050 21801	180Ω 1% 0.6W
3617	4822 050 25603	56k 1% 0.6W
3618	4822 050 25603	56k 1% 0.6W
3621	4822 050 28201	820Ω 1% 0.6W
3622	4822 050 28201	820Ω 1% 0.6W
3623	4822 050 28201	820Ω 1% 0.6W
3624	4822 050 28201	820Ω 1% 0.6W
3701	4822 050 14709	47Ω 1% 0.4W
3702	4822 050 14709	47Ω 1% 0.4W
3703	4822 116 52186	22Ω 5% 0.5W
3704	4822 116 52186	22Ω 5% 0.5W
3705	4822 050 14709	47Ω 1% 0.4W
3706	4822 050 14709	47Ω 1% 0.4W
3707	4822 050 21003	10k 1% 0.6W
3708	4822 050 21003	10k 1% 0.6W
3709	4822 050 25603	56k 1% 0.6W
3710	4822 050 25603	56k 1% 0.6W
3711	4822 116 80311	4Ω7 5%
3714	4822 050 21006	10M 1% 0.6W
3715	4822 100 11213	22k 30%
3716	4822 100 11213	22k 30%
3717	4822 050 13303	33k 1% 0.4W
3718	4822 050 13303	33k 1% 0.4W
3724	4822 050 21002	1k 1% 0.6W
3725	4822 050 22203	22k 1% 0.6W
3726	4822 050 24703	47k 1% 0.6W
3727	4822 051 10101	100Ω 2% 0.25W
3728	4822 051 10101	100Ω 2% 0.25W
3729	4822 116 52303	8k2 5% 0.5W
3730	4822 050 23302	3k3 1% 0.6W

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SUPC

Service Information

1993 - 04 - 06

AS501/20/25/26

A93 - 178

Product Service Group CE Audio

(GB)
To adapt the service manual the following sheets have been added/changed.

(NL)
Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

(F)
Afin de pouvoir adapter le "manual service" les feuillets suivants ont été soit modifiés, soit ajoutés.

(D)
Zür anpassung des Service Manual sind die nachstehenden Seiten hinzugefügt/geändert.

(I)
Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

	CS Number	Reason
Wiring Diagram	CS 34 776A	Update
Tuner Layout	PCS 63 255A	Update
Tuner Circuit	CS 34 654A	Update

Due to error in Partslist the following Correction/Addition to the service manual is necessary :

CS Number	Correction/Addition
CS 34 788	Add safety symbol ⚠ for 3140.
CS 34 790	Add safety symbol ⚠ for 3568, 3593.
CS 34 791	Add safety symbol ⚠ for 3711, 6305.

Service
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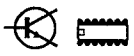
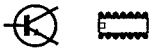
4822 725 24494

6556	4822 130 30621	1N4148
6557	4822 130 30621	1N4148
6558	4822 130 30621	1N4148
6559	4822 130 30621	1N4148
6560	4822 130 30621	1N4148
6561	4822 130 30621	1N4148
6562	4822 130 30621	1N4148
6563	4822 130 30621	1N4148
6564	4822 130 30621	1N4148
6565	4822 130 30621	1N4148
6566	4822 130 30621	1N4148
6567	4822 130 30621	1N4148
6703	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6708	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6711	4822 130 30621	1N4148
6712	4822 130 30621	1N4148
6713	4822 130 30621	1N4148
6714	4822 130 30621	1N4148
6731	4822 130 31253	BZX79-C2V4
6732	4822 130 30842	BAV21
6802	4822 130 32472	TLG124A



7101	4822 130 60163	2SC1047
7102	4822 130 60093	2SA838B
7103	4822 209 72744	CXA1240P
7104	4822 130 44154	BF199
7105	4822 130 44196	TBC548C
7106	4822 209 71321	AN7411
7107	4822 130 60163	2SC1047
7108	5322 130 44779	BC338-40
7109	5322 130 44779	BC338-40
7110	4822 209 71331	LM7000
7111	5322 130 42755	BC847C
7112	4822 130 60163	2SC1047
7113	5322 130 42755	BC847C
7114	5322 130 42755	BC847C
7115	5322 130 42755	BC847C
7301	5322 130 44786 ⚠	BD675
7303	5322 130 44779	BC338-40
7304	5322 130 44779	BC338-40
7305	4822 130 44196	BC548C
7307	4822 209 73356 ⚠	AN7161N(FP)
7308	4822 209 73356 ⚠	AN7161N(FP)
7309	4822 130 40982 ⚠	BD433
7313	4822 130 40938	BC548



7314	4822 130 40938	BC548
7400	4822 209 62996	TMP47C221AF-4257
7401	5322 130 44779	BC338-40
7403	4822 209 31168	ST93C06B1
7411	4822 130 40938	TBC548
7413	4822 130 40938	TBC548
7420	4822 130 40941	TBC558
7421	4822 130 40938	TBC548
7435	4822 130 40938	TBC548
7436	4822 130 40938	TBC548
7437	5322 130 44779	BC338-40
7438	4822 130 41715	BC328-40
7439	4822 130 40938	TBC548
7440	5322 130 44779	BC338-40
7441	4822 130 41715	BC328-40
7442	4822 130 40938	TBC548
7443	4822 130 44197	TBC558B
7444	4822 130 40938	TBC548
7445	4822 130 40938	TBC548
7446	4822 130 40941	TBC558
7447	4822 130 41715	BC328-40
7501	4822 209 83274	NJM4560D
7503	4822 130 40937	TBC548B
7504	4822 130 40937	TBC548B
7551	4822 209 83274	NJM4560D
7551	4822 209 63558	CXA1102P
7552	4822 209 83274	NJM4560D
7552	4822 130 40937	BC548B
7553	4822 130 44196	TBC548C
7554	4822 130 44196	TBC548C
7554	5322 130 44779	BC338-40
7555	5322 130 44779	BC338-40
7556	4822 209 83274	NJM4560D
7563	5322 130 60068	BC558C
7564	4822 130 44196	BC548C
7565	4822 130 44196	BC548C
7701	4822 209 62372	TDA1602A/N3
7704	4822 130 40937	BC548B
7705	4822 130 40937	BC548B
7707	4822 130 44197	BC558B
7722	4822 130 44196	BC548C
7724	5322 130 44779	BC338-40